SENTRY SOFTWARE

Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization

Version 3.0.00

BCO CONNECTOR Storage Monitoring for BMC CAPACITY Optimization

DELL

User Documentation

July 2013

BMC SOFTWARE VALIDATED MARKETZONE

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Introduction

Support Information

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Support Web Site

You can obtain technical support from BMC Software 24 hours a day, 7 days a week at http://www.bmc.com/support/. From this Web site, you can:

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- Find the most current information about BMC Software products
- Search a database for problems similar to yours and possible solutions
- Order or download product documentation
- Report a problem or ask a question
- Subscribe to receive email notices when new product versions are released
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Additional Resources

You can also access product documents and search the Knowledge Base for help with an issue at http://www.sentrysoftware.com.

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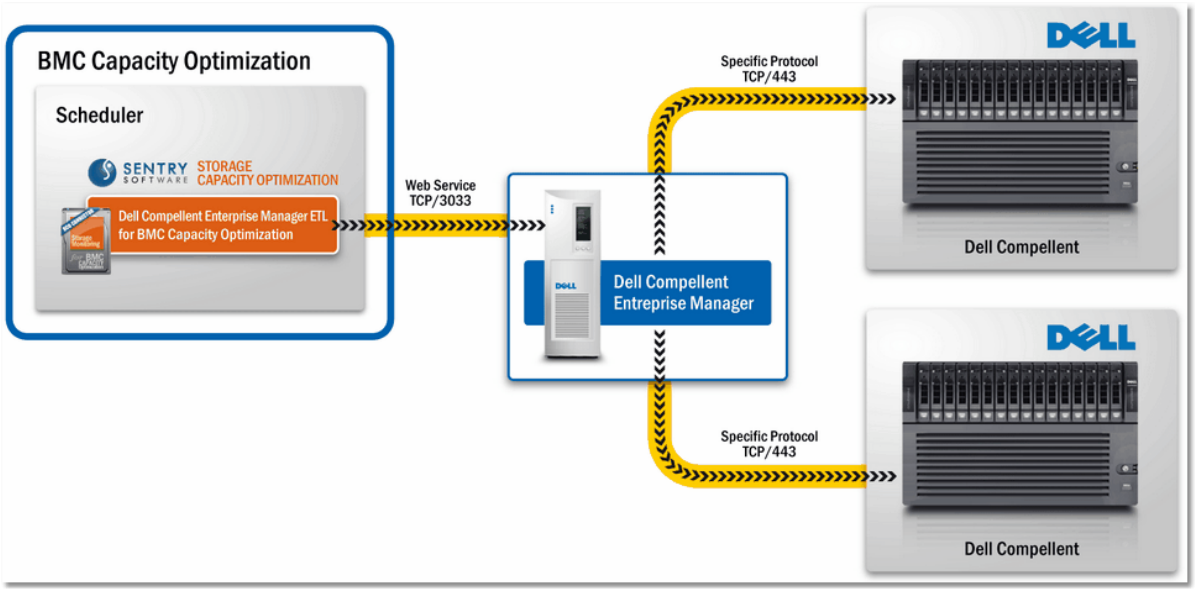
713 918 8800
Customer Support: 800 537 1813 (United States and Canada) or contact your local support center

Overview

BCO CONNECTOR
Storage
Monitoring
for BMC
CAPACITY
Optimization

Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization is a connector specifically designed for BMC Capacity Optimization and can be defined as an ETL Service, named Sentry Software Integration for BCO - Dell Compellent Enterprise Manager Extractor Service, that continuously polls and collects data from Dell Compellent Enterprise Manager. Once an ETL Service is started, it runs continuously on BMC Capacity Optimization. Once properly configured, the Dell Compellent Enterprise Manager Extractor Service task collects all of the metric required for performing critical capacity optimization tasks, such as: analysis, trending, simulation and analytic modeling.



Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization diagram

Getting Started

Supported Platforms and Versions

Supported Dell Compellent Storage Centers

Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization supports any Dell Compellent Storage Centers compatible with Dell Compellent Enterprise Manager 6.3.

Supported versions of BMC Capacity Optimization

Before you can install Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization you must have previously installed and configured BMC Capacity Optimization v9.0.03.

Getting the Installation Package

The installation package for Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization can be downloaded from the BMC Electronic Product Distribution site or directly from Sentry Software Web site and consists of the following archive: **Dell-Compellent-Enterprise-Manager-ETL-for-BCO-3.0.00.zip**. The file can be saved on any server accessible via the BCO Console.

Before you can install Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization you must have previously installed and configured BMC Capacity Optimization v9.0.03.

Dell Compellent Enterprise Manager

Dell Compellent Enterprise Manager allows you to monitor, manage, and analyze Storage Centers from a centralized management console. It consists of the following components:

- **Data Collector**: Data Collector is a service that gathers reporting data and alerts from all Storage Centers. There are two types of Data Collectors: Primary and Remote. All installations must include one primary Data Collector. Each Data Collector service (primary or remote) is managed using a Data Collector Manager.
- **Database**: Data Collector stores data in a database or flat file. The database can run on the same or a different platform from Data Collector.
- **Enterprise Manager Clients**: An Enterprise Manager Client connects to the Data Collector Service to provide a centralized management console for one or more Storage Centers. Additional clients can be connected to the same Data Collector Service to provide management from more than one location.
- **Server Agents**: By installing a Server Agent for Microsoft Windows on each Windows server using a Storage Center, Data Collector can gather local volume information from a Windows server. Using this information, Enterprise Manager can free volume storage space from expired Replays that would otherwise remain locked by Windows. Each Server Agent is managed by a Server Agent Manager.

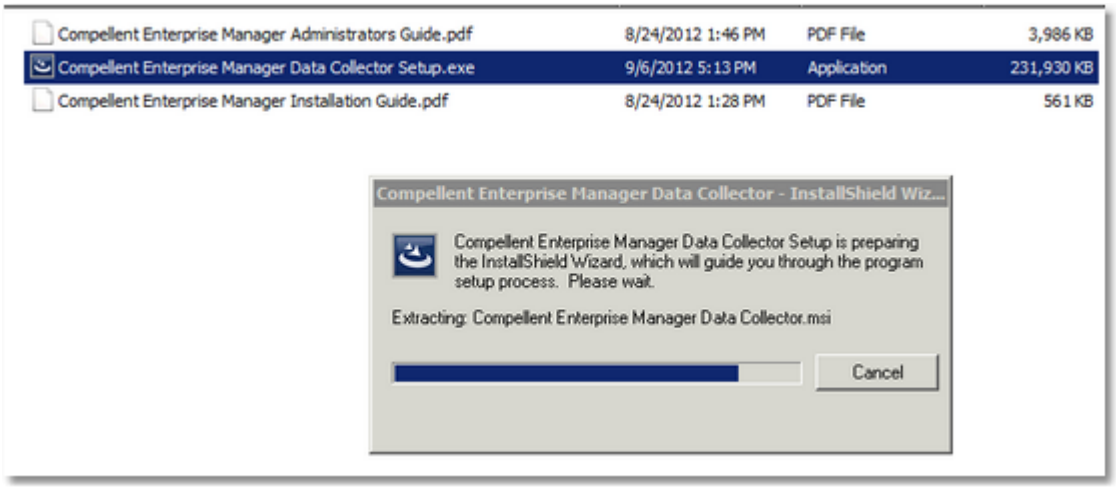
This guide describes how to install and configure Enterprise Manager components. For more information, please refer to the Dell Compellent Enterprise Manager documentation.

Requirements

Dell Compellent Enterprise Manager requires Java Runtime Environment (JRE) 1.6 or higher (1.6 Update 30 or higher recommended). On 64-bit systems both the 32-bit and the 64-bit JRE are required

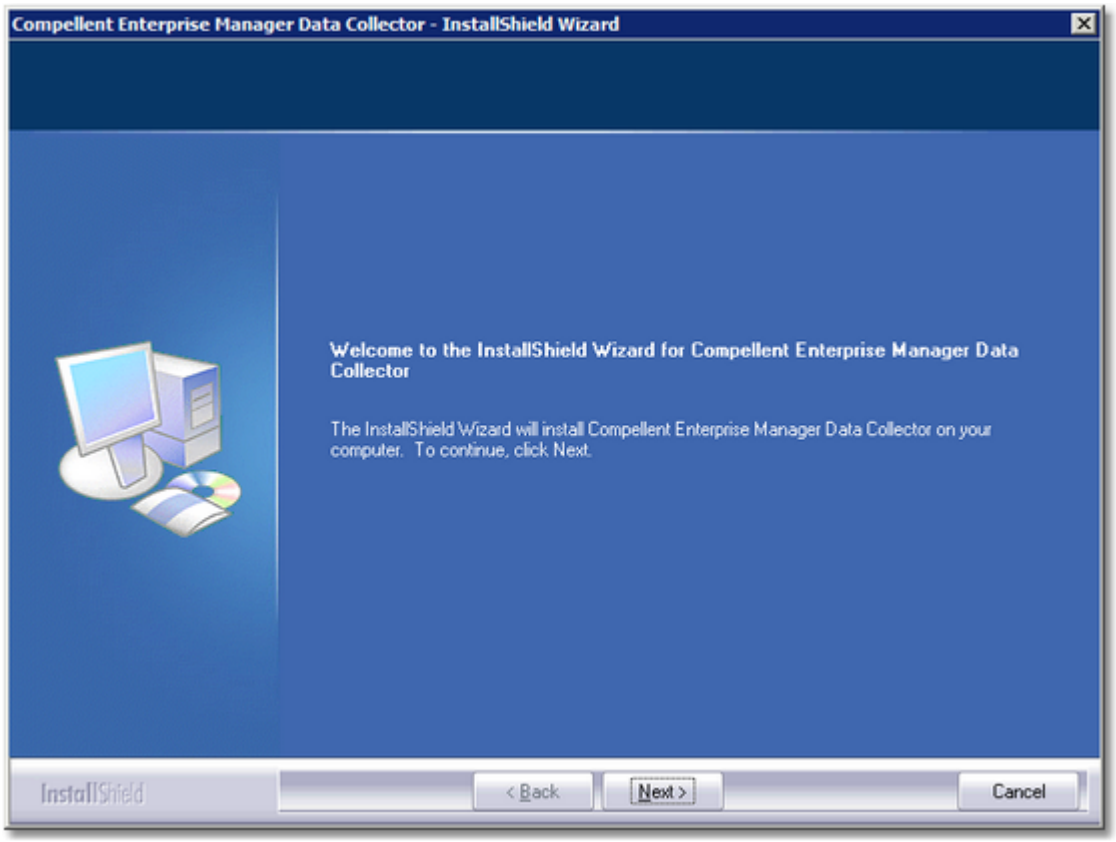
Installing Enterprise Manager Data Collector

1. Download the Enterprise Manager Data Collector software:
   - Go to the Dell Compellent Support Home Page.
   - Log on to the customer or partner portal.
   - Click **Knowledge Center**, then download the Enterprise Manager Data Collector Setup file


Compellent Enterprise Manager Administrators Guide.pdf 8/24/2012 1:46 PM PDF File 3,986 KB
Compellent Enterprise Manager Data Collector Setup.exe 9/6/2012 5:13 PM Application 231,930 KB
Compellent Enterprise Manager Installation Guide.pdf 8/24/2012 1:28 PM PDF File 561 KB
Compellent Enterprise Manager Data Collector - InstallShield Wiz...
Compellent Enterprise Manager Data Collector Setup is preparing the InstallShield Wizard, which will guide you through the program setup process. Please wait.
Extracting: Compellent Enterprise Manager Data Collector.msi
Cancel

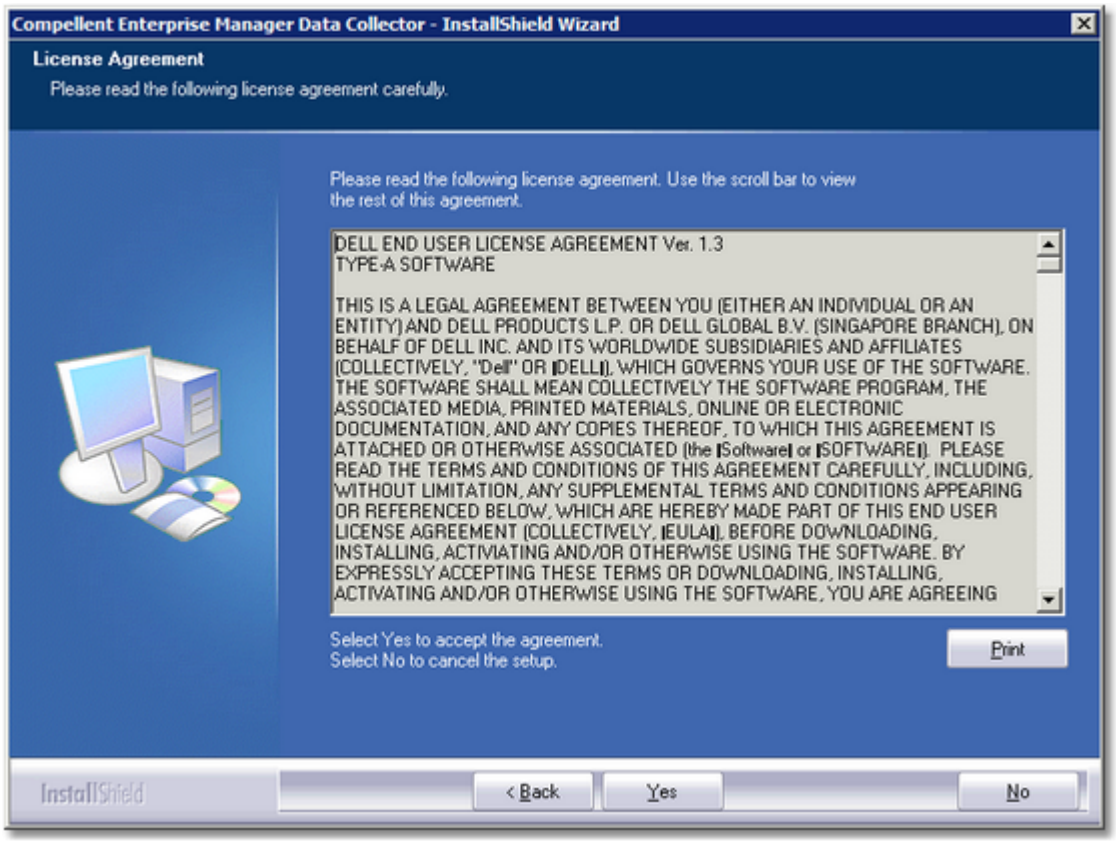
Installing Enterprise Manager Data Collector - Setup File

3. Run **Compellent Enterprise Manager Data Collector Setup.exe**.


Compellent Enterprise Manager Data Collector - InstallShield Wizard
Welcome to the InstallShield Wizard for Compellent Enterprise Manager Data Collector
The InstallShield Wizard will install Compellent Enterprise Manager Data Collector on your computer. To continue, click Next.
InstallShield
< Back
Next >
Cancel

Installing Enterprise Manager Data Collector - Welcome

4. Click **Next**.


Compellent Enterprise Manager Data Collector - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
Please read the following license agreement. Use the scroll bar to view the rest of this agreement.
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TYPE-A SOFTWARE
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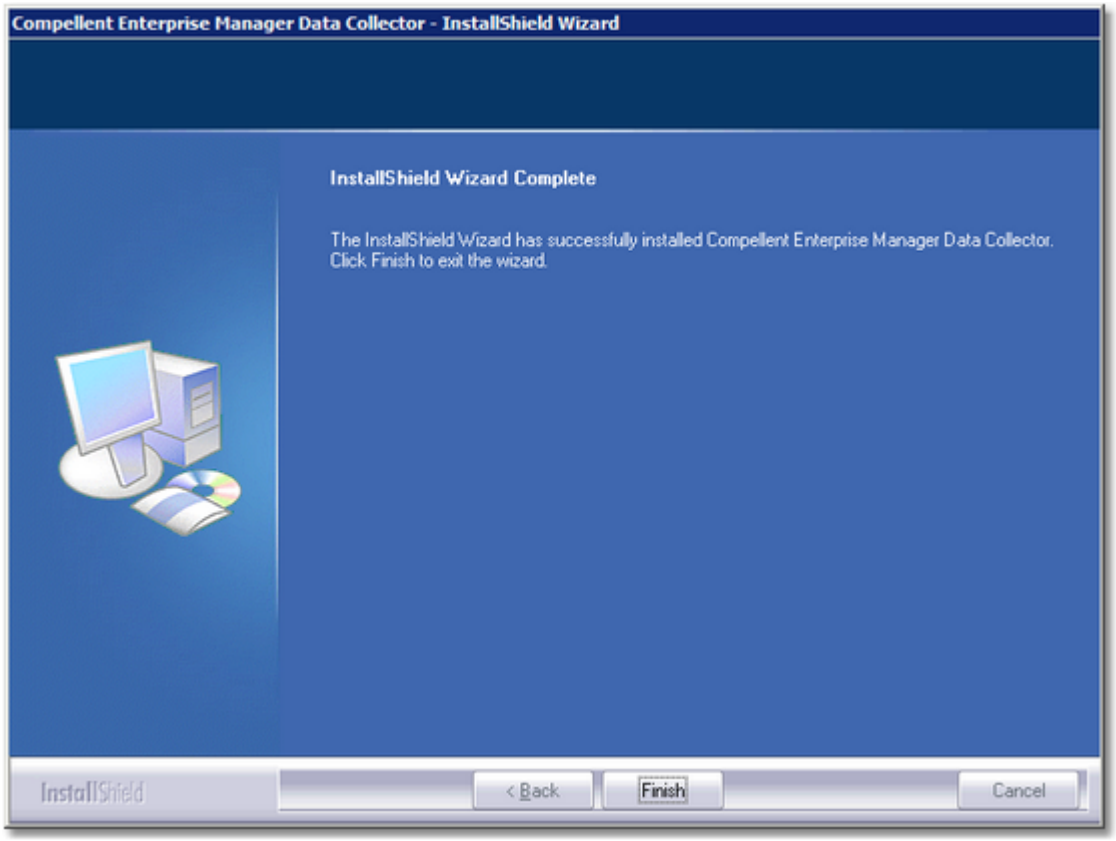
Select Yes to accept the agreement.
Select No to cancel the setup.
Print
InstallShield
< Back
Yes
No

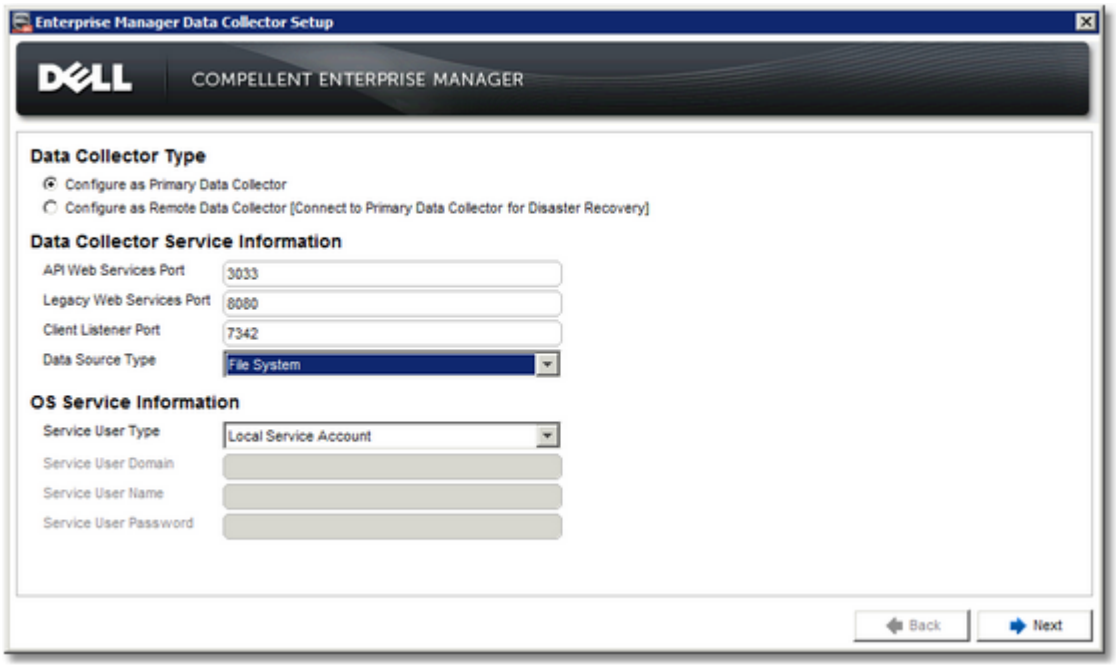
Installing Enterprise Manager Data Collector - License Agreement

5. Click **Yes** to accept the license agreement and launch the installation.


Compellent Enterprise Manager Data Collector - InstallShield Wizard
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed Compellent Enterprise Manager Data Collector. Click Finish to exit the wizard.
InstallShield
< Back
Finish
Cancel

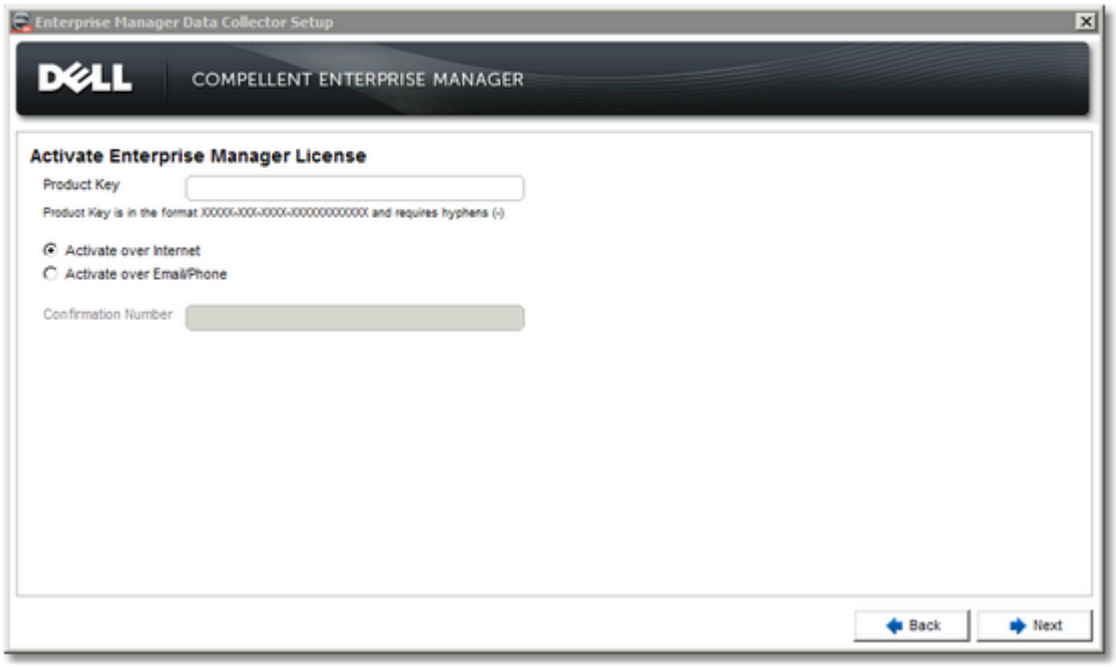
Installing Enterprise Manager Data Collector - Installation Complete

6. Once the installation is complete, click **Finish**. The Enterprise Manager Data Collector Setup wizard appears:



Installing Enterprise Manager Data Collector - Configuration

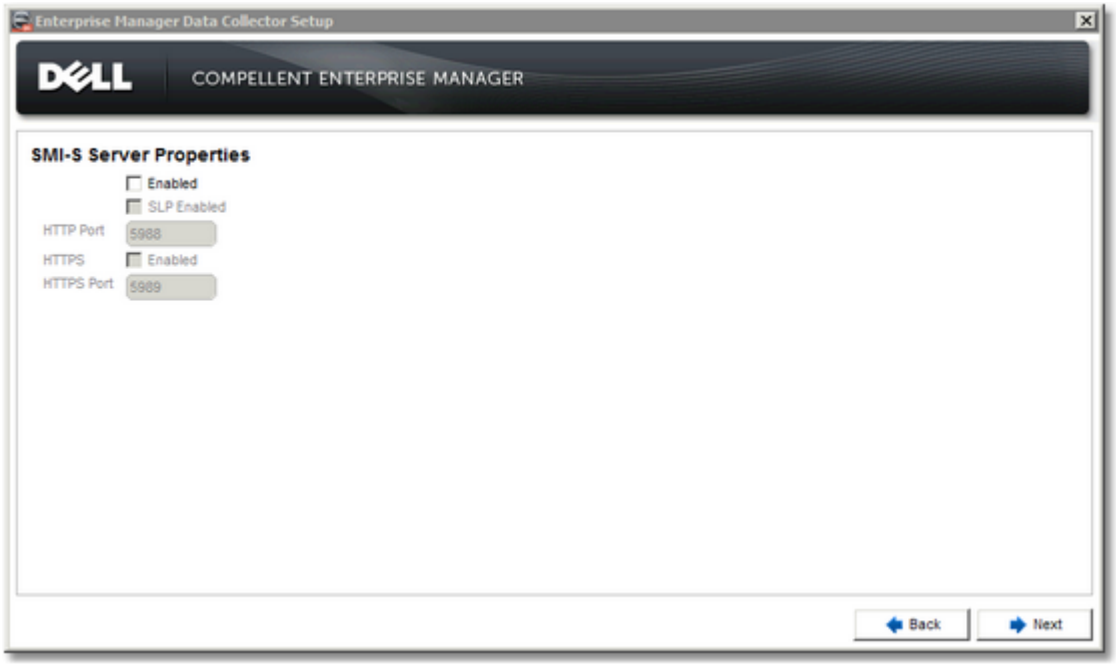
7. Configure Enterprise Manager Data Collector:
   - Select **Configure as Primary Data Collector**
   - Set the Data Collector Service and OS Service Information
   - Click **Next**.



Installing Enterprise Manager Data Collector - License Activation

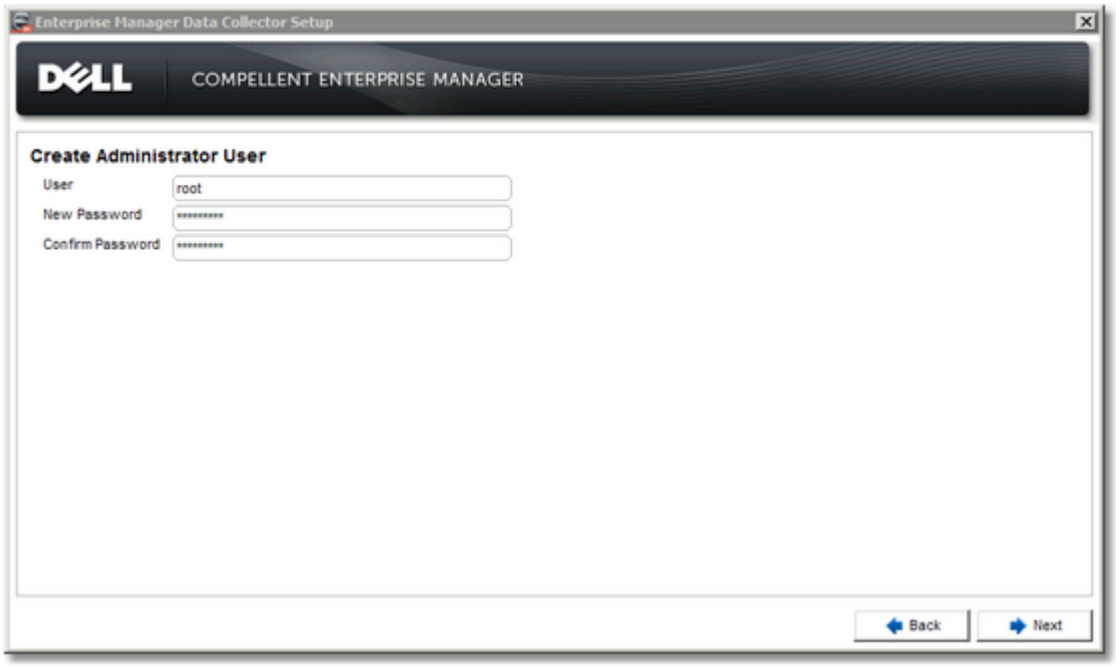
8. Enter the **Product Key**, choose whether you want to activate your license over Internet or over Email/Phone, and click **Next**.

Data collector can be used for 30 days without activation.



Installing Enterprise Manager Data Collector - SMI-S Server Properties

8. Since Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization leverages the Dell Compellent API, there's no need to enable the SMI-S Server. Leave the fields blank and click **Next**.



Installing Enterprise Manager Data Collector - Administrator User

9. Create the **Administrator User** that will be used to log on to the Enterprise Manager and click **Next**.

Enterprise Manager Data Collector Setup
DELL
COMPELLENT ENTERPRISE MANAGER
Enterprise Manager Data Collector Setup is Complete.
Go to the Data Collector Web Site to install Client and Server Agent
https://172.16.16.154:3033/em/EnterpriseManager
[Note: The Client can be installed on machines different than the Data Collector]
[Note: It may take a couple minutes for the Data Collector Web Site to Start]
Back
Finish

Installing Enterprise Manager Data Collector - Setup Complete

10. The Enterprise Manager Data Collector setup is now complete. Click the URL to go to the Data Collector Website. Click **Finish**.

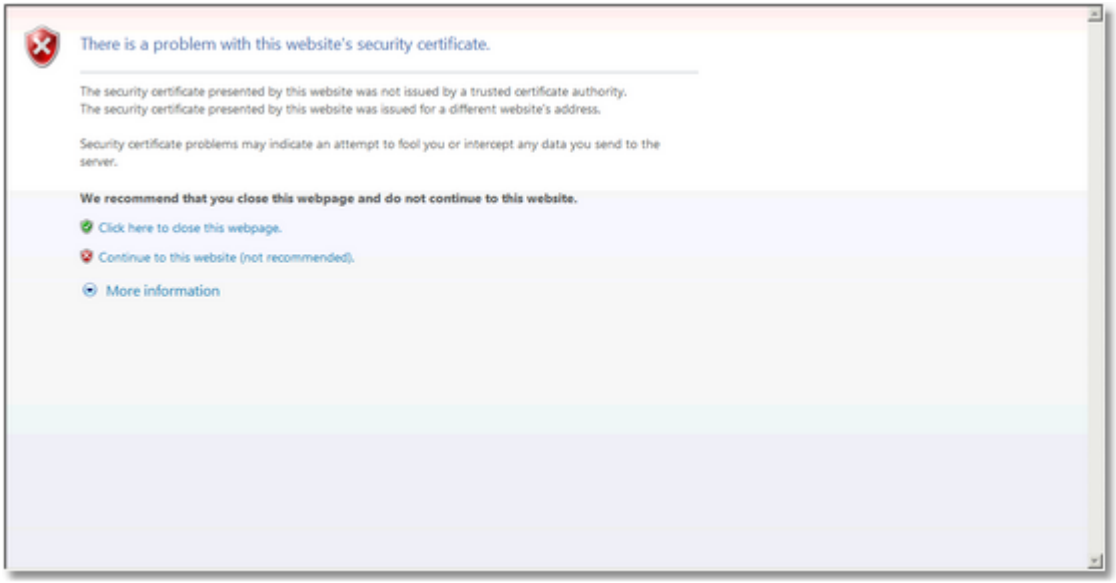
Installing Enterprise Manager Client

The Enterprise Manager Client is a Windows application that connects to the Data Collector, allowing you to view and manage multiple Storage Centers. You can install the client on the Data Collector server or a computer that has network connectivity to the Data Collector server.

To install Enterprise Manager Client:

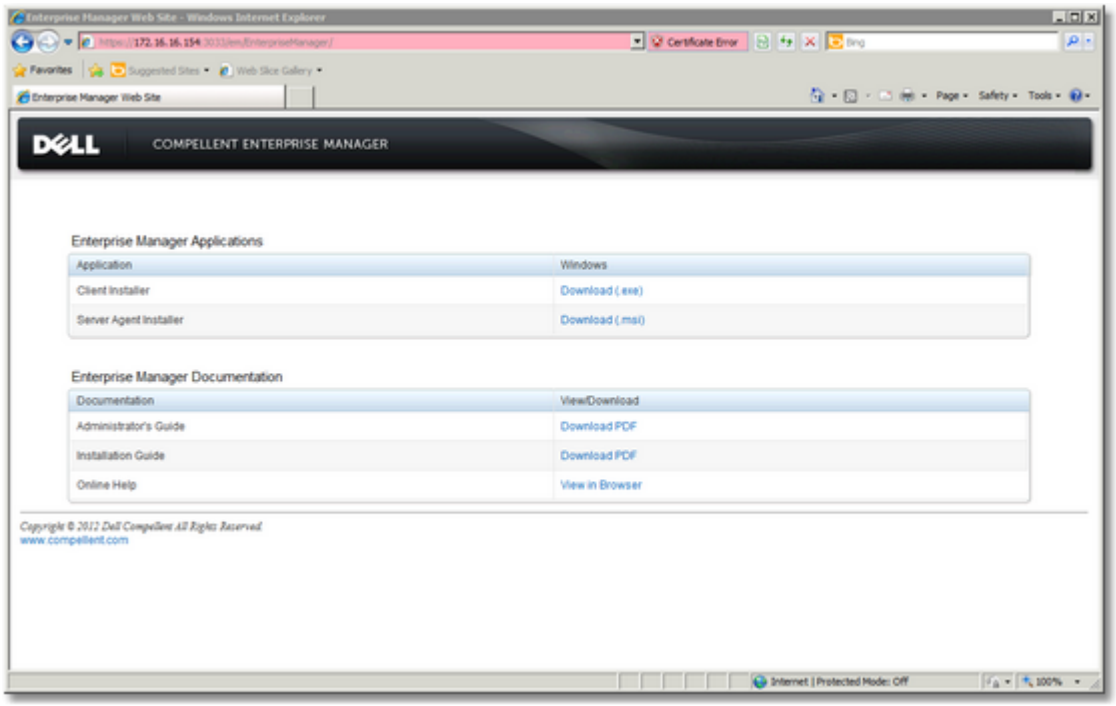
1. Go to **Data Collector Website**. The default location for the website is: https://<emdc_hostname_ip>:<emdc_web_server_port> where:
   - <emdc_hostname_ip> is the host name or IP address of the server that hosts the Data Collector.
   - <emdc_web_server_port> is the Data Collector web service port; the default port is 3033.

The URL of the Data Collector Website is displayed in the Enterprise Manager Data Collector wizard when the installation is complete.


There is a problem with this website's security certificate.
The security certificate presented by this website was not issued by a trusted certificate authority.
The security certificate presented by this website was issued for a different website's address.
Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server.
We recommend that you close this webpage and do not continue to this website.
Click here to close this webpage.
Continue to this website (not recommended).
More information

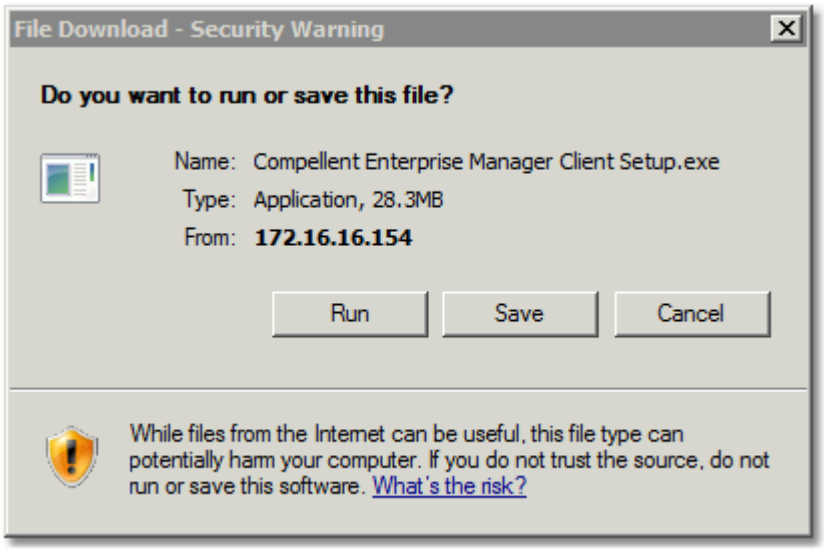
Installing the Enterprise Manager Client - Security Certificate

2. Click **Continue to this website**.



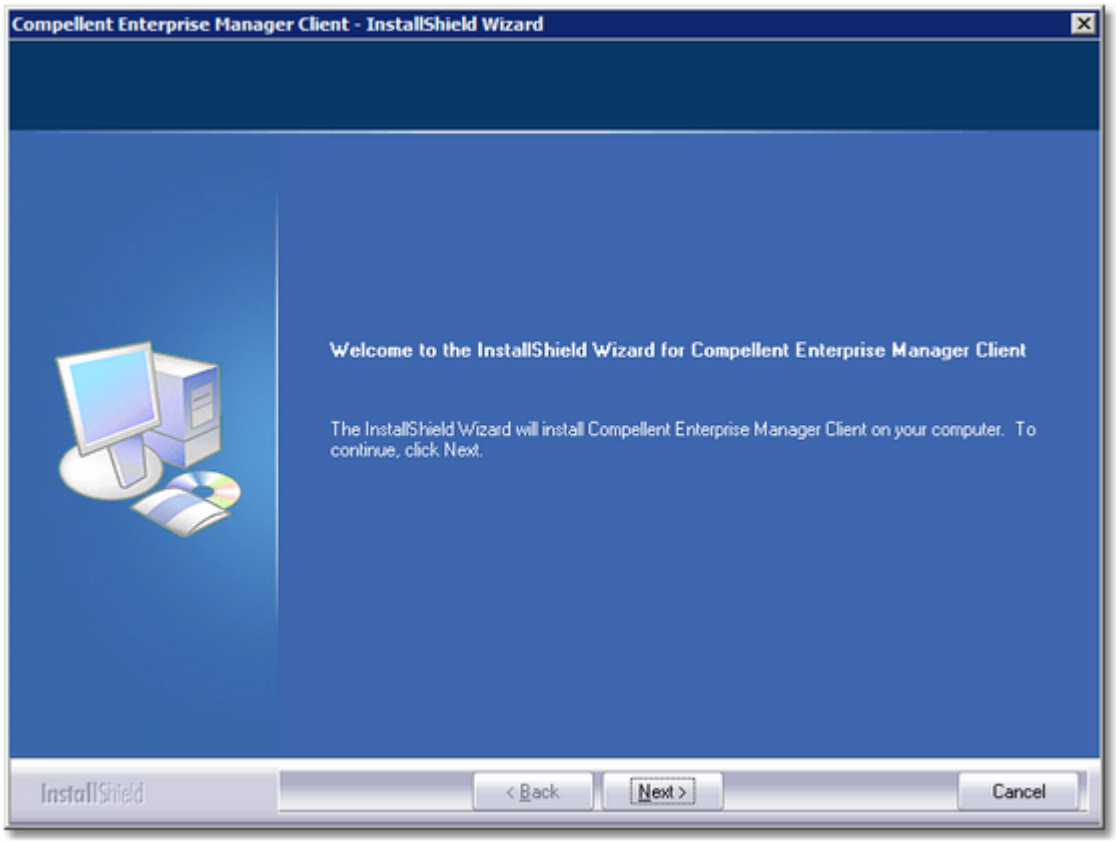
Installing the Enterprise Manager Client - Download

3. Download the **Client Installer**
4. When the download is complete, double-click the downloaded file. A Security Warning dialog box appears.


File Download - Security Warning
Do you want to run or save this file?
Name: Compellent Enterprise Manager Client Setup.exe
Type: Application, 28.3MB
From: 172.16.16.154
Run
Save
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?

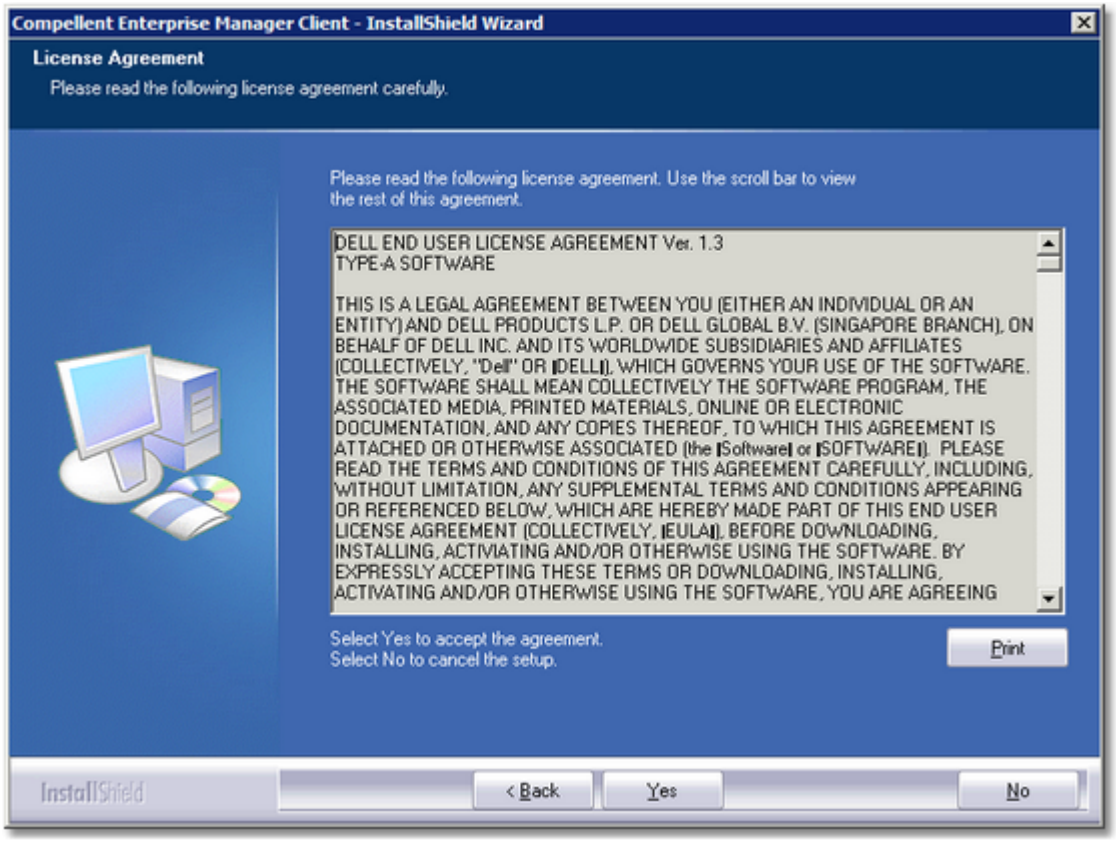
Installing the Enterprise Manager Client - Security Warning

5. Click **Run** to start the installation.


Compellent Enterprise Manager Client - InstallShield Wizard
Welcome to the InstallShield Wizard for Compellent Enterprise Manager Client
The InstallShield Wizard will install Compellent Enterprise Manager Client on your computer. To continue, click Next.
InstallShield
< Back
Next >
Cancel

Installing the Enterprise Manager Client - Welcome

6. Click **Next**.


Compellent Enterprise Manager Client - InstallShield Wizard
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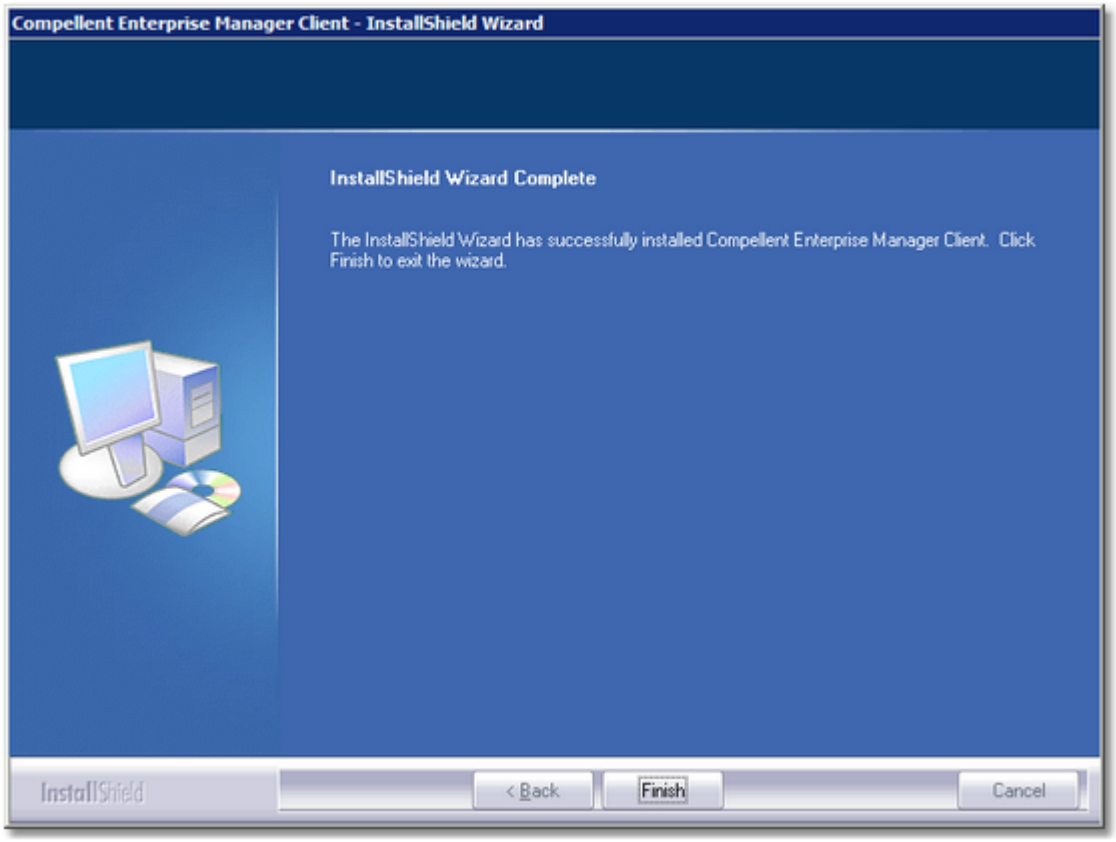
Select Yes to accept the agreement.
Select No to cancel the setup.
Print
InstallShield
< Back
Yes
No

Installing the Enterprise Manager Client - License Agreement

7. Click **Yes** to accept the license agreement and start the installation.


Compellent Enterprise Manager Client - InstallShield Wizard
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed Compellent Enterprise Manager Client. Click Finish to exit the wizard.
InstallShield
< Back
Finish
Cancel

Installing the Enterprise Manager Client - Installation Complete

8. Click **Finish**. The Enterprise Manager icon appears on the desktop.

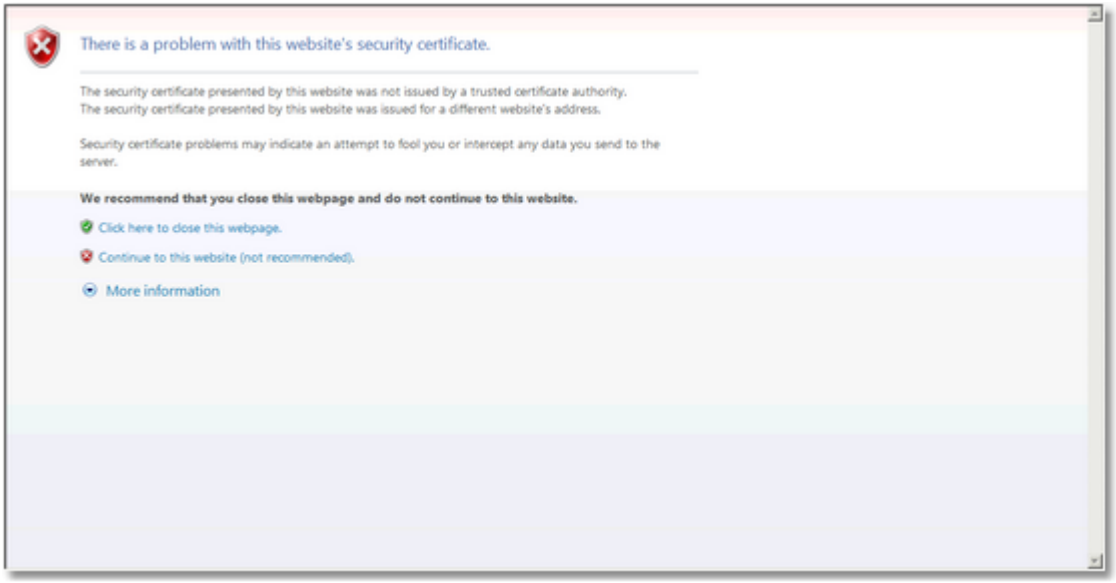
Installing Enterprise Manager Server Agent

The Enterprise Manager Server Agent is a service for Windows that allows you to see server information, recover unused storage space from Windows NTFS, and monitor and control Dell Compellent NAS and zNAS servers.

To install Enterprise Manager Server Agent:

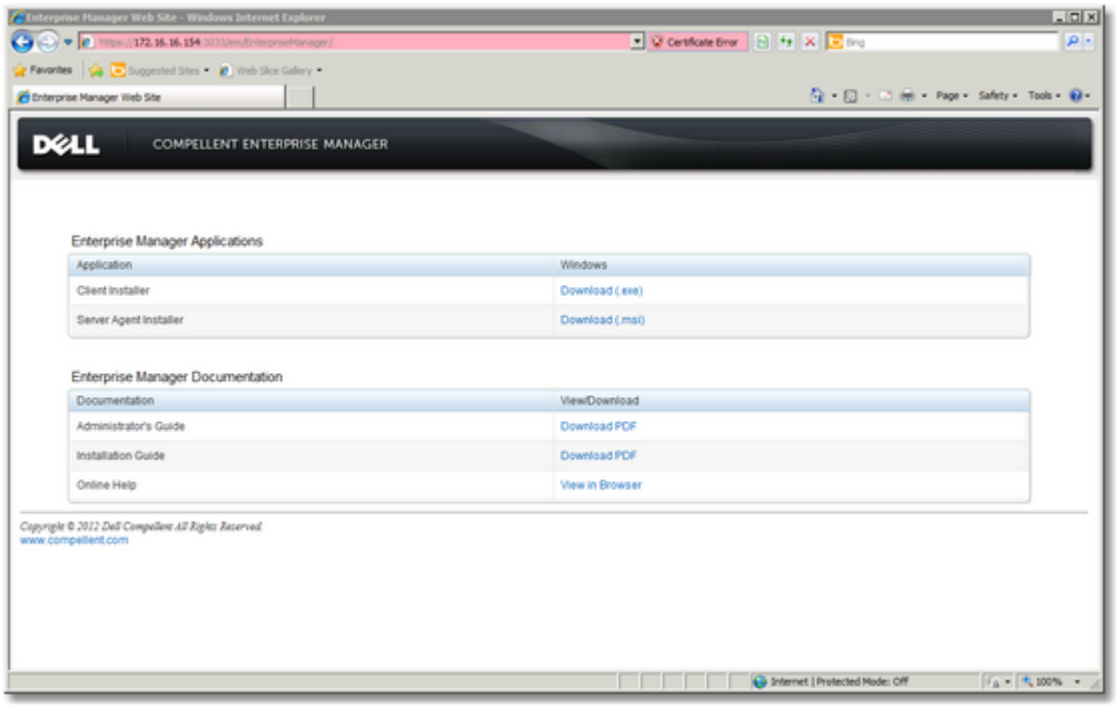
1. Go to **Data Collector Website**. The default location for the website is: https://<emdc_hostname_ip>:<emdc_web_server_port> where:
   - <emdc_hostname_ip> is the host name or IP address of the server that hosts the Data Collector.
   - <emdc_web_server_port> is the Data Collector web service port; the default is 3033.

The URL of the Data Collector Website is displayed in the Enterprise Manager Data Collector wizard when the installation is complete.


There is a problem with this website's security certificate.
The security certificate presented by this website was not issued by a trusted certificate authority.
The security certificate presented by this website was issued for a different website's address.
Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server.
We recommend that you close this webpage and do not continue to this website.
Click here to close this webpage.
Continue to this website (not recommended).
More information

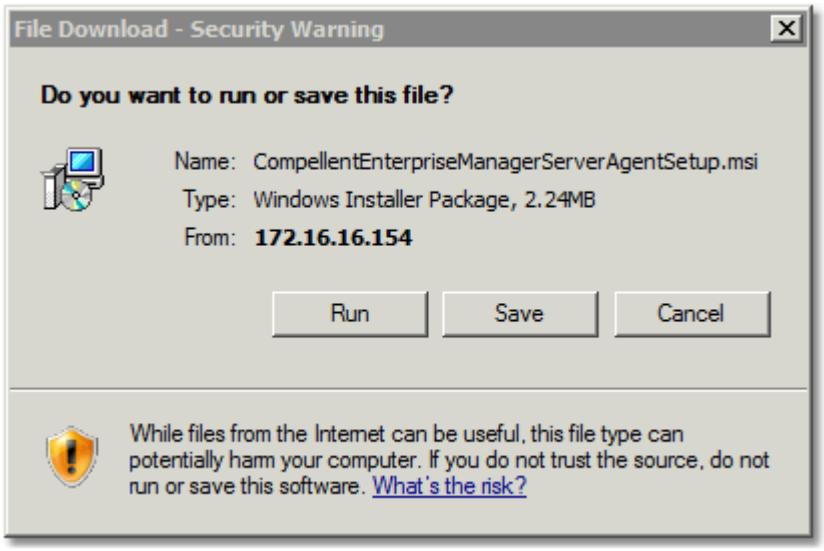
Installing the Server Agent - Security Certificate

2. Click **Continue to this website**.



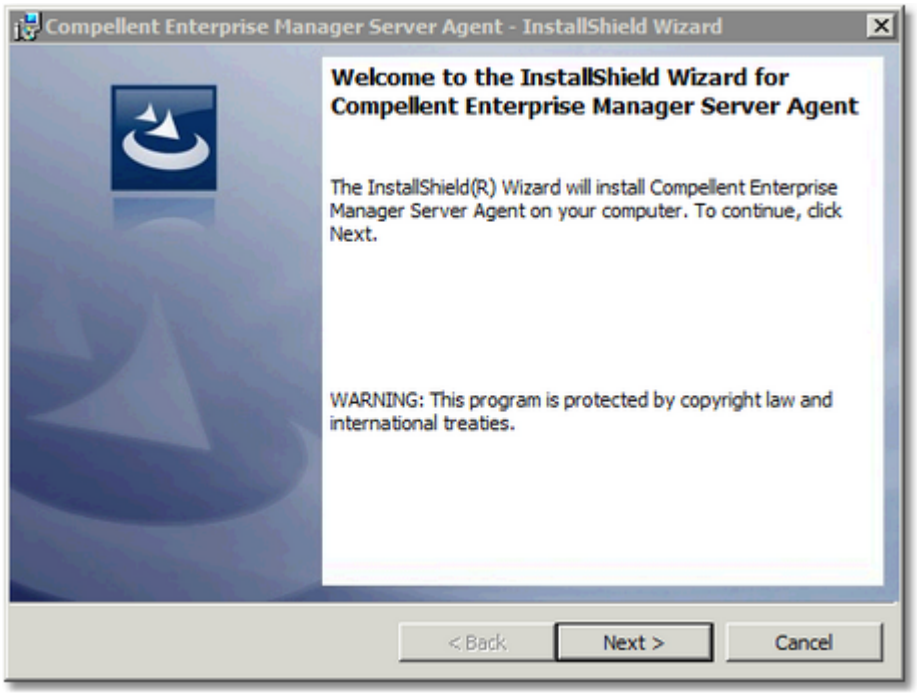
Installing the Server Agent - Download

3. Download the **Server Agent Installer**.
4. When the download is complete, double-click the downloaded file. A Security Warning dialog box appears.


File Download - Security Warning
Do you want to run or save this file?
Name: CompellentEnterpriseManagerServerAgentSetup.msi
Type: Windows Installer Package, 2.24MB
From: 172.16.16.154
Run
Save
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?

Installing the Server Agent - Security Warning

5. Click **Run**.


Compellent Enterprise Manager Server Agent - InstallShield Wizard
Welcome to the InstallShield Wizard for Compellent Enterprise Manager Server Agent
The InstallShield(R) Wizard will install Compellent Enterprise Manager Server Agent on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

Installing the Server Agent - Welcome

6. Click **Next**.

Compellent Enterprise Manager Server Agent - InstallShield Wizard
License Agreement
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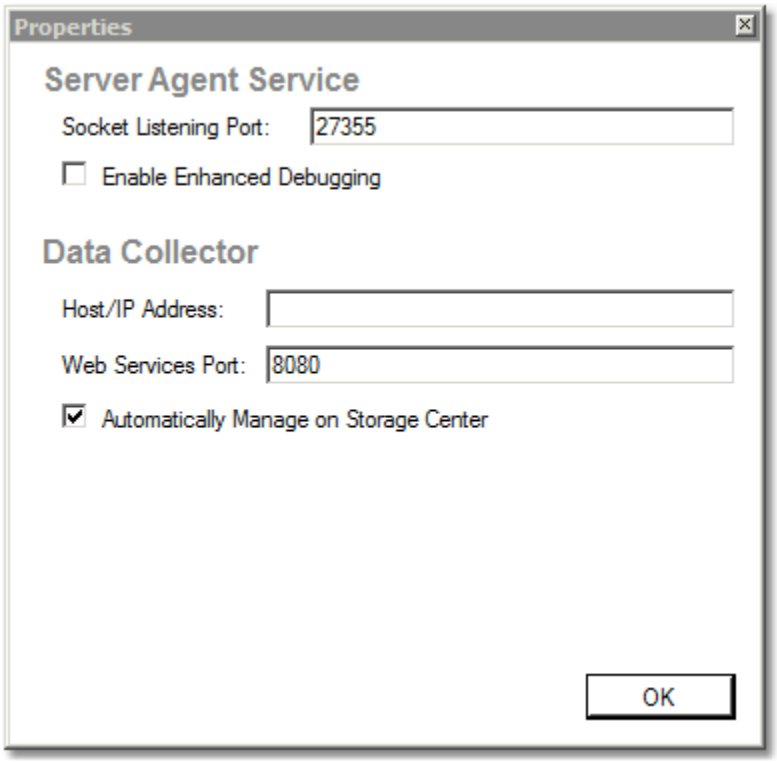
I accept the terms in the license agreement
I do not accept the terms in the license agreement
Print
InstallShield
< Back
Next >
Cancel

Installing the Server Agent - License Agreement

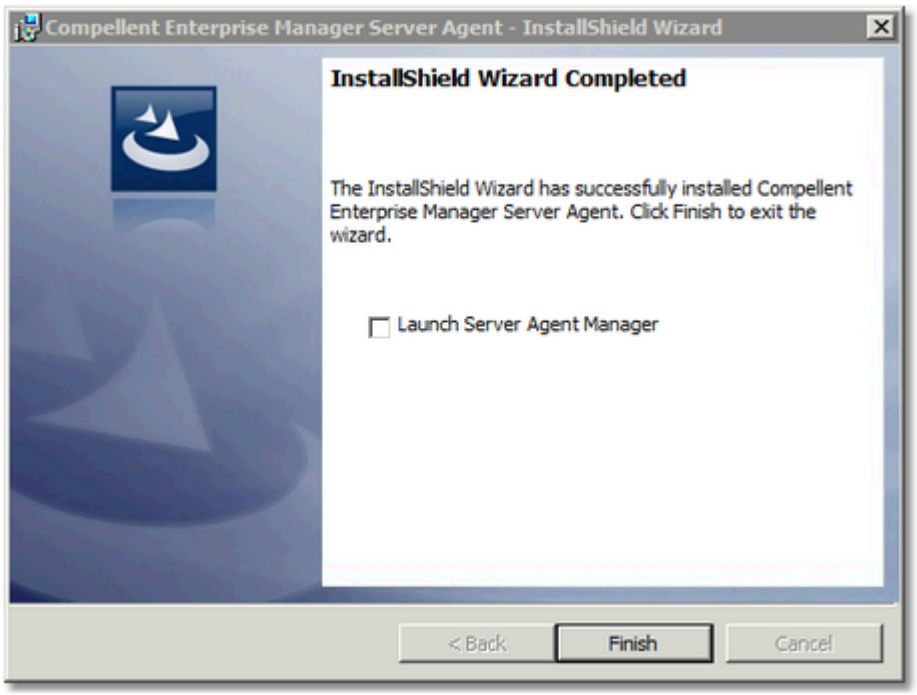
7. Select **I Accept the terms in the license agreement** and click **Next**.



Installing the Server Agent - Properties

8. Register the Server Agent with Enterprise Manager Data Collector:
   - Enter the socket listening port. By default, 27355

- Enter the host name or IP address of the Data Collector
- Enter the web services port. By default, 8080
- Check the box **Automatically Manage on Storage Center**
- Click **OK**.


Compellent Enterprise Manager Server Agent - InstallShield Wizard
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed Compellent Enterprise Manager Server Agent. Click Finish to exit the wizard.
Launch Server Agent Manager
< Back
Finish
Cancel

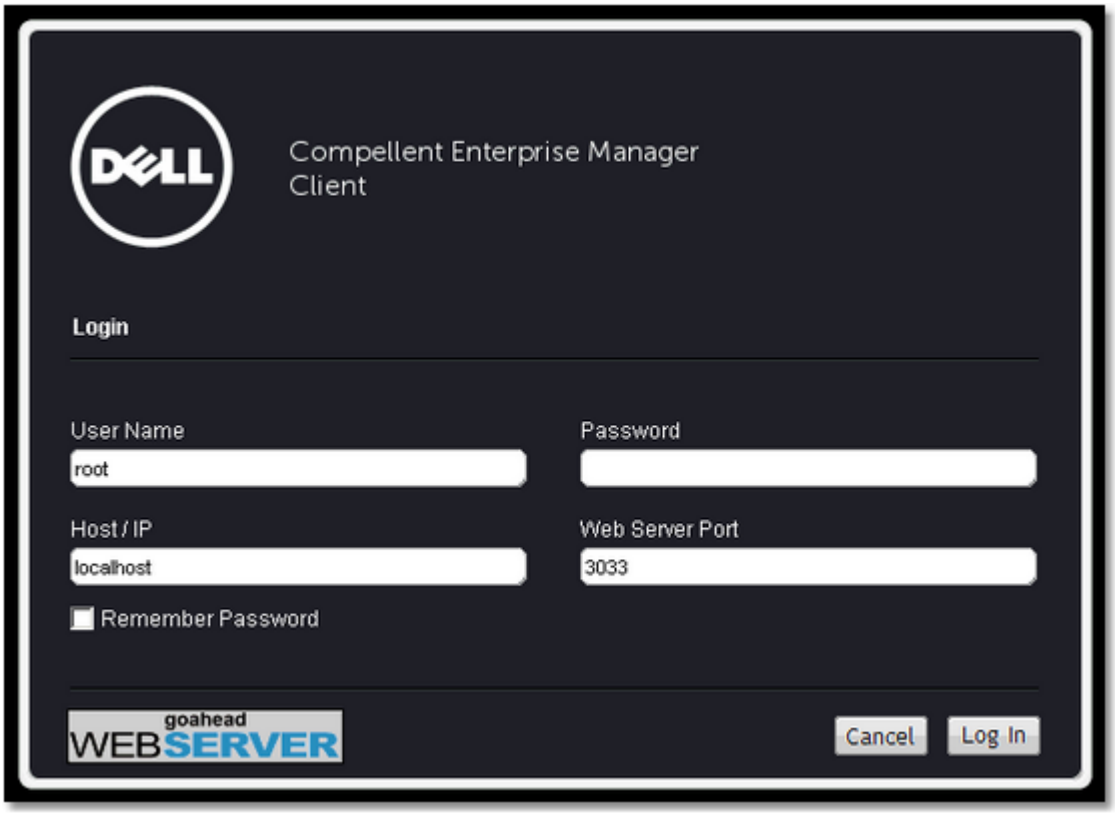
Installing the Server Agent - Installation Complete

9. Once the installation is complete, click **Finish**.

Connecting to Data Collector

The Enterprise Manager Client can be used to connect to the Data Collector to view and manage multiple Storage Centers:

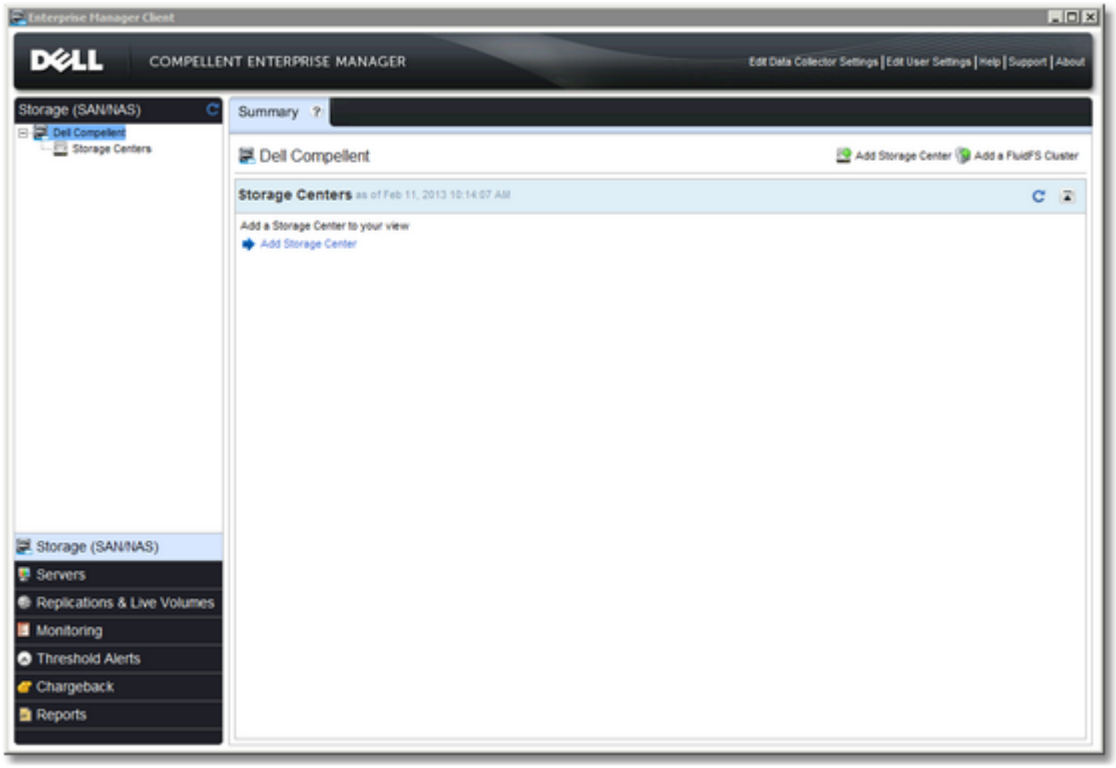
1. On the desktop, double-click the **Enterprise Manager Client** shortcut. The **Login to Compellent Enterprise Manager Client** window appears.



Configuring Enterprise Manager Client - Login Page

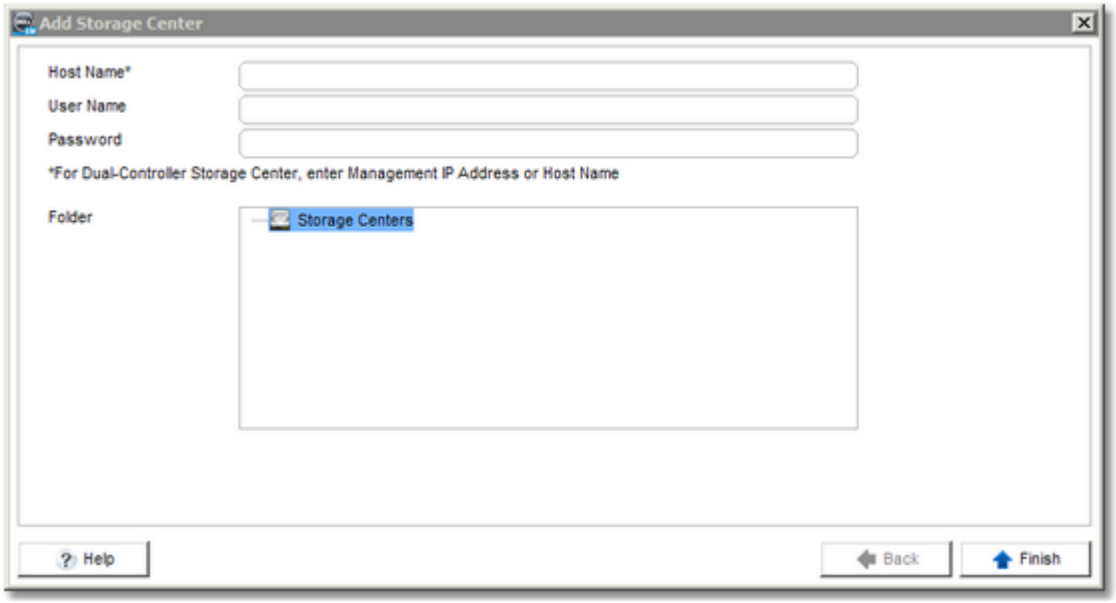
2. Complete the following fields:
   - **User Name**: Enterprise Manager user that was created while installing Data Collector
   - **Password**: User's password
   - **Host/IP**: host name or IP address of the server that hosts the Data Collector.
   - **Web Server Port**: If you changed the Web Server Port during installation, enter the updated port.

3. Click **Log In**. The Client connects to the Data Collector and displays the Storage (SAN/NAS) view.



Configuring Enterprise Manager Client

4. Click **Add Storage Center**



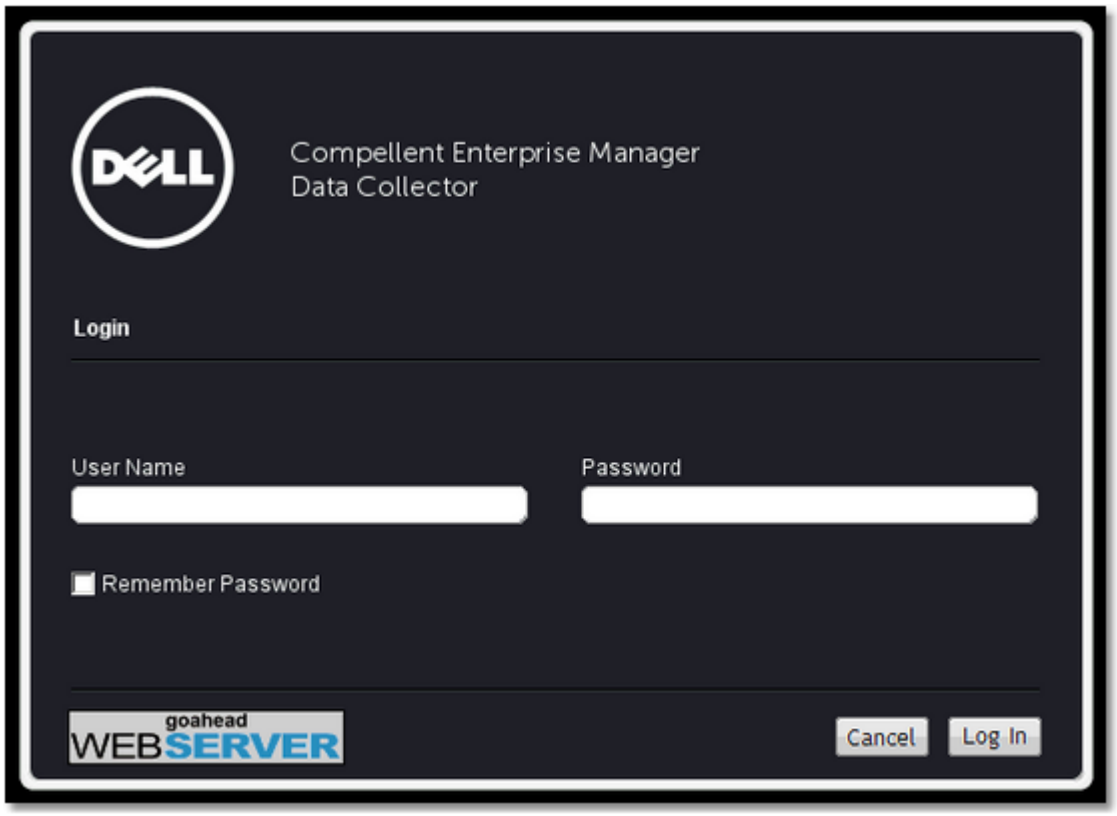
Configuring Enterprise Manager Client - Add Storage Center

5. Complete the following fields:
   - **Host Name**: Host name or IP address of the Storage Center.
   - **User Name**: Name of an administrator user on the Storage Center.
   - **Password**: Password for the Storage Center user.

6. Click **Finish**. The Storage Center appears in the list of Storage Centers.

Configuring Dell Compellent Enterprise Manager

1. On the desktop, double-click the **Enterprise Data Collector Manager** shortcut. The **Login to Data Collector** window appears.



Configuring Enterprise Manager Data Collector - Login Page

2. Enter your credentials and click **Log In**.
3. From Dell Compellent Enterprise Manager, you can:
   - Add Enterprise Manager users
   - Add Storage Center volumes
   - Add servers to Storage Centers
   - Add FluidFS clusters to Enterprise Manager
   - Configure email notifications
   - Set up remote Storage Centers and QoS
   - Configure replications and Live Volumes
   - Predefine your disaster recovery plan.

For more information, please refer to the Dell Compellent Enterprise Manager Administrator's Guide.

Integrating the ETL for BCO

Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization is a connector specifically designed to interact with the BMC Capacity Optimization (BCO) environment. It relies on the BCO interface and features for integrating, managing and processing the performance metrics of your Dell systems.

Before installing, make sure that all the prerequisite operations have been properly completed (refer to the **Getting Started** chapter).

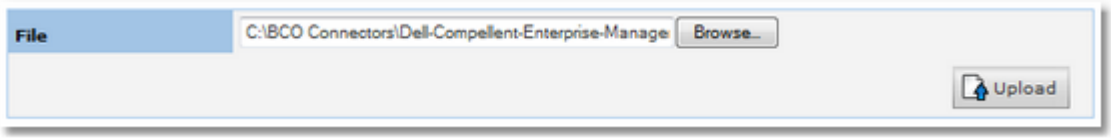
Installing Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization

This section provides the step-by-step procedure to upload Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization into the BCO Console. The upload procedure is quick and easy, as it relies on the ***Upload patch or additional component file*** mechanism accessible in the BCO Console under the section **Administration >System >Maintenance**.

Upload and Install Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization in the BCO Console

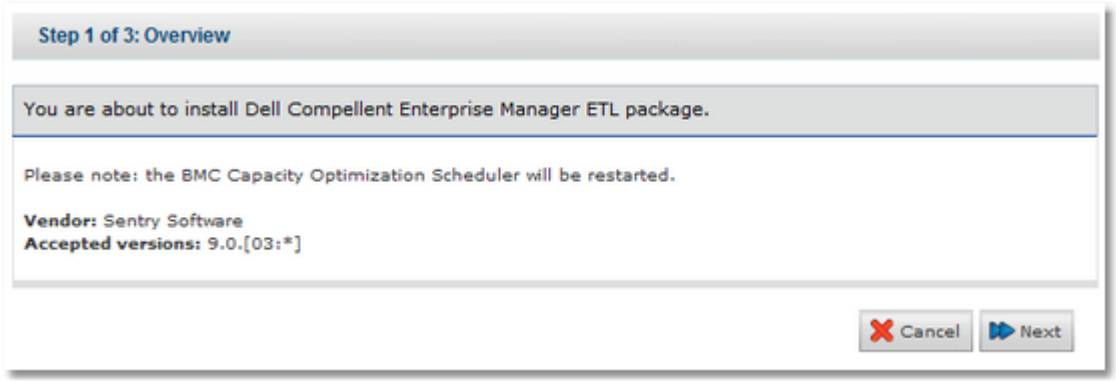
To integrate Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization to the BCO Console, follow these steps:

1. Access the BCO Console.
2. In the **Administration** tab, click **System > Maintenance.**
   - At the bottom of the Maintenance page, locate the Upload patch or additional component file section:

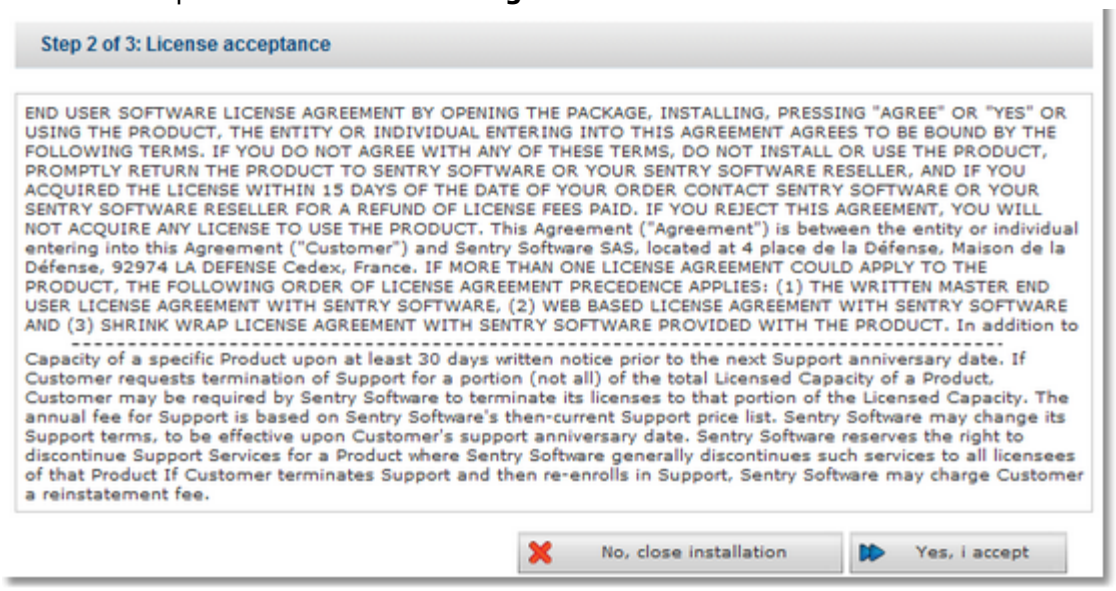


   - Click **Browse**, locate and select the file to download named Dell-Compellent-Enterprise-Manager-ETL-for-BCO-3.0.00.zip
   - Click **Upload**

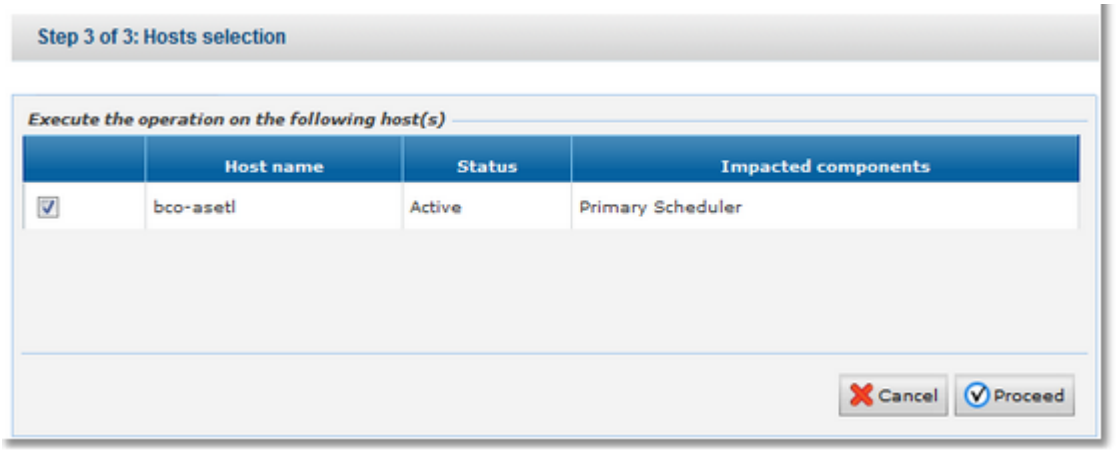
3. Read the Overview and click **Next** to continue.


Step 1 of 3: Overview
You are about to install Dell Compellent Enterprise Manager ETL package.
Please note: the BMC Capacity Optimization Scheduler will be restarted.
Vendor: Sentry Software
Accepted versions: 9.0.[03:*]
Cancel
Next

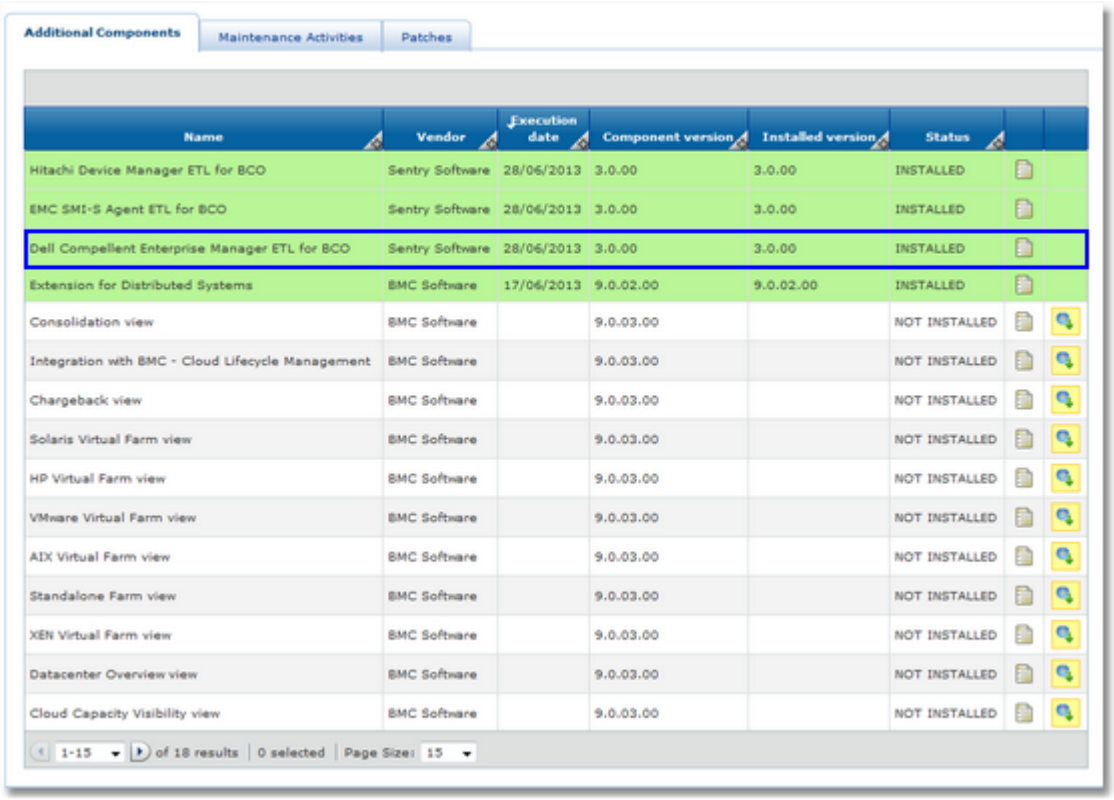
4. Read and accept the **End User License Agreement**.


Step 2 of 3: License acceptance
END USER SOFTWARE LICENSE AGREEMENT BY OPENING THE PACKAGE, INSTALLING, PRESSING "AGREE" OR "YES" OR USING THE PRODUCT, THE ENTITY OR INDIVIDUAL ENTERING INTO THIS AGREEMENT AGREES TO BE BOUND BY THE FOLLOWING TERMS. IF YOU DO NOT AGREE WITH ANY OF THESE TERMS, DO NOT INSTALL OR USE THE PRODUCT, PROMPTLY RETURN THE PRODUCT TO SENTRY SOFTWARE OR YOUR SENTRY SOFTWARE RESELLER, AND IF YOU ACQUIRED THE LICENSE WITHIN 15 DAYS OF THE DATE OF YOUR ORDER CONTACT SENTRY SOFTWARE OR YOUR SENTRY SOFTWARE RESELLER FOR A REFUND OF LICENSE FEES PAID. IF YOU REJECT THIS AGREEMENT, YOU WILL NOT ACQUIRE ANY LICENSE TO USE THE PRODUCT. This Agreement ("Agreement") is between the entity or individual entering into this Agreement ("Customer") and Sentry Software SAS, located at 4 place de la Défense, Maison de la Défense, 92974 LA DEFENSE Cedex, France. IF MORE THAN ONE LICENSE AGREEMENT COULD APPLY TO THE PRODUCT, THE FOLLOWING ORDER OF LICENSE AGREEMENT PRECEDENCE APPLIES: (1) THE WRITTEN MASTER END USER LICENSE AGREEMENT WITH SENTRY SOFTWARE, (2) WEB BASED LICENSE AGREEMENT WITH SENTRY SOFTWARE AND (3) SHRINK WRAP LICENSE AGREEMENT WITH SENTRY SOFTWARE PROVIDED WITH THE PRODUCT. In addition to
Capacity of a specific Product upon at least 30 days written notice prior to the next Support anniversary date. If Customer requests termination of Support for a portion (not all) of the total Licensed Capacity of a Product, Customer may be required by Sentry Software to terminate its licenses to that portion of the Licensed Capacity. The annual fee for Support is based on Sentry Software's then-current Support price list. Sentry Software may change its Support terms, to be effective upon Customer's support anniversary date. Sentry Software reserves the right to discontinue Support Services for a Product where Sentry Software generally discontinues such services to all licensees of that Product If Customer terminates Support and then re-enrolls in Support, Sentry Software may charge Customer a reinstatement fee.
No, close installation
Yes, i accept

5. Select the server on which the operation must be executed; that is on which server the package will be saved.
6. Click **Proceed** to continue.



7. A successful installation will result in a green line in the **Additional components** table.


Additional Components
Maintenance Activities
Patches
Name
Vendor
Execution date
Component version
Installed version
Status
Hitachi Device Manager ETL for BCO | Sentry Software | 28/06/2013 | 3.0.00 | 3.0.00 | INSTALLED
EMC SMI-S Agent ETL for BCO | Sentry Software | 28/06/2013 | 3.0.00 | 3.0.00 | INSTALLED
Dell Compellent Enterprise Manager ETL for BCO | Sentry Software | 28/06/2013 | 3.0.00 | 3.0.00 | INSTALLED
Extension for Distributed Systems | BMC Software | 17/06/2013 | 9.0.02.00 | 9.0.02.00 | INSTALLED
Consolidation view | BMC Software | 9.0.03.00 | NOT INSTALLED
Integration with BMC - Cloud Lifecycle Management | BMC Software | 9.0.03.00 | NOT INSTALLED
Chargeback view | BMC Software | 9.0.03.00 | NOT INSTALLED
Solaris Virtual Farm view | BMC Software | 9.0.03.00 | NOT INSTALLED
HP Virtual Farm view | BMC Software | 9.0.03.00 | NOT INSTALLED
VMware Virtual Farm view | BMC Software | 9.0.03.00 | NOT INSTALLED
AIX Virtual Farm view | BMC Software | 9.0.03.00 | NOT INSTALLED
Standalone Farm view | BMC Software | 9.0.03.00 | NOT INSTALLED
XEN Virtual Farm view | BMC Software | 9.0.03.00 | NOT INSTALLED
Datacenter Overview view | BMC Software | 9.0.03.00 | NOT INSTALLED
Cloud Capacity Visibility view | BMC Software | 9.0.03.00 | NOT INSTALLED
1-15 of 18 results | 0 selected | Page Size: 15

It is possible (and recommended, in case of unsuccessful outcome, e.g. a yellow WARNING line) to inspect the deployment log, which can be done by clicking the *icon.*

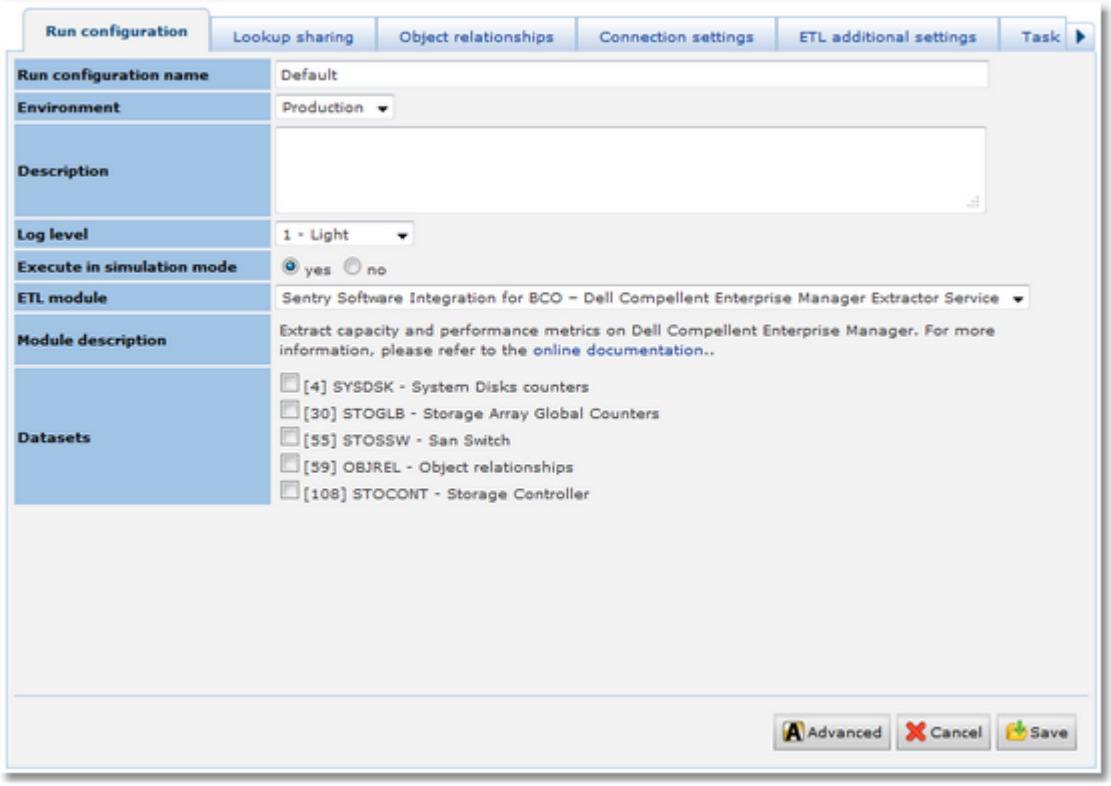
Once you have properly installed Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization, you need to proceed with the configuration of the corresponding ETL Service.

Configuring Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization

This chapter details every steps required to configure an ETL Service and add it as an ETL task responsible for extracting capacity and performance metrics on Dell storage systems from the Dell Compellent Enterprise Manager and feeding it into the BMC Capacity Optimization Data Warehouse.

To configure the ETL:

1. Access the configuration window:
   - In the **Administration** tab, click **Scheduler > ETL tasks**.
   - Press the **Add** button, and select **Add ETL**.
2. In the **Run configuration** tab:



- Name the Run configuration (By default, 'Default').
- Select the environment on which the module will run, **Production** or **Test**.
- Enter a description (optional).
- Select a **Log level**, specifying how detailed the execution log will be. Available options are "Light", "Medium", and "Verbose".
- Set the **Execute in simulation mode** option to no.

When the ETL is executed in simulation mode, actual data is not stored in the data warehouse. This option is useful while testing a new ETL task.

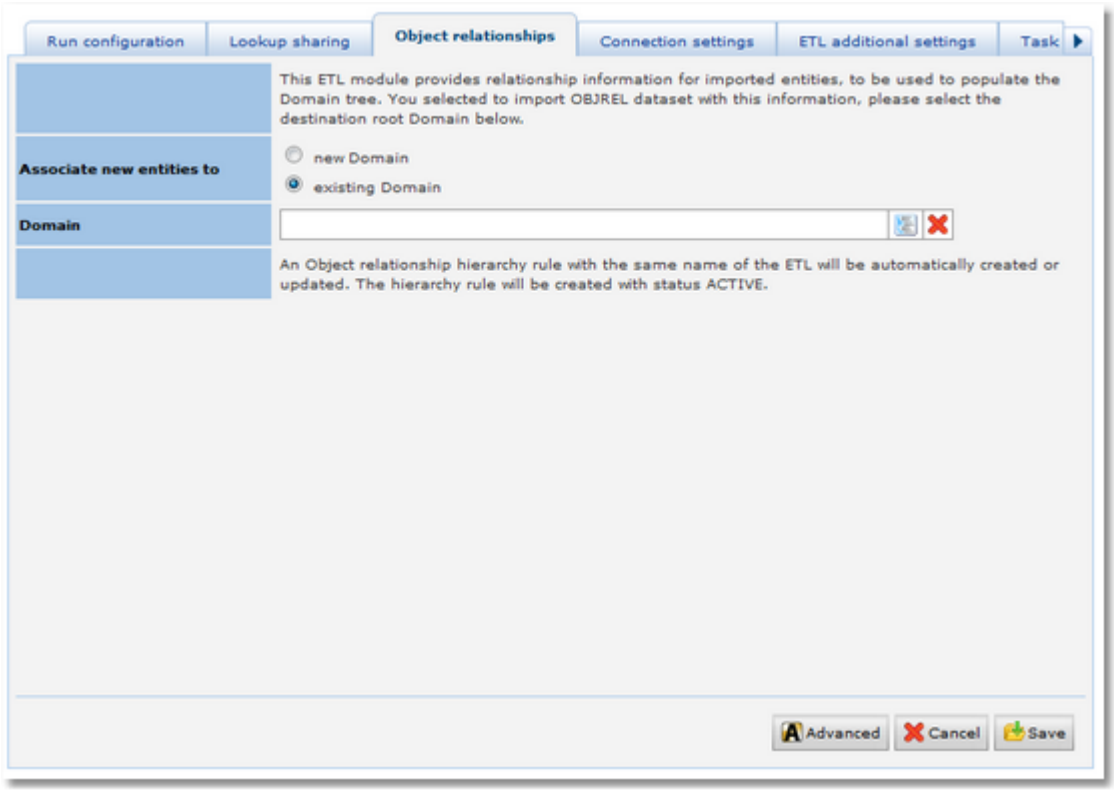
- From the **ETL module** drop-down menu, select **Sentry Software Integration for BCO - Sentry Software Integration for BCO - Dell Compellent Enterprise Manager Extractor Service**.
- Select all the datasets available.

3. In the **Lookup sharing** tab, select:

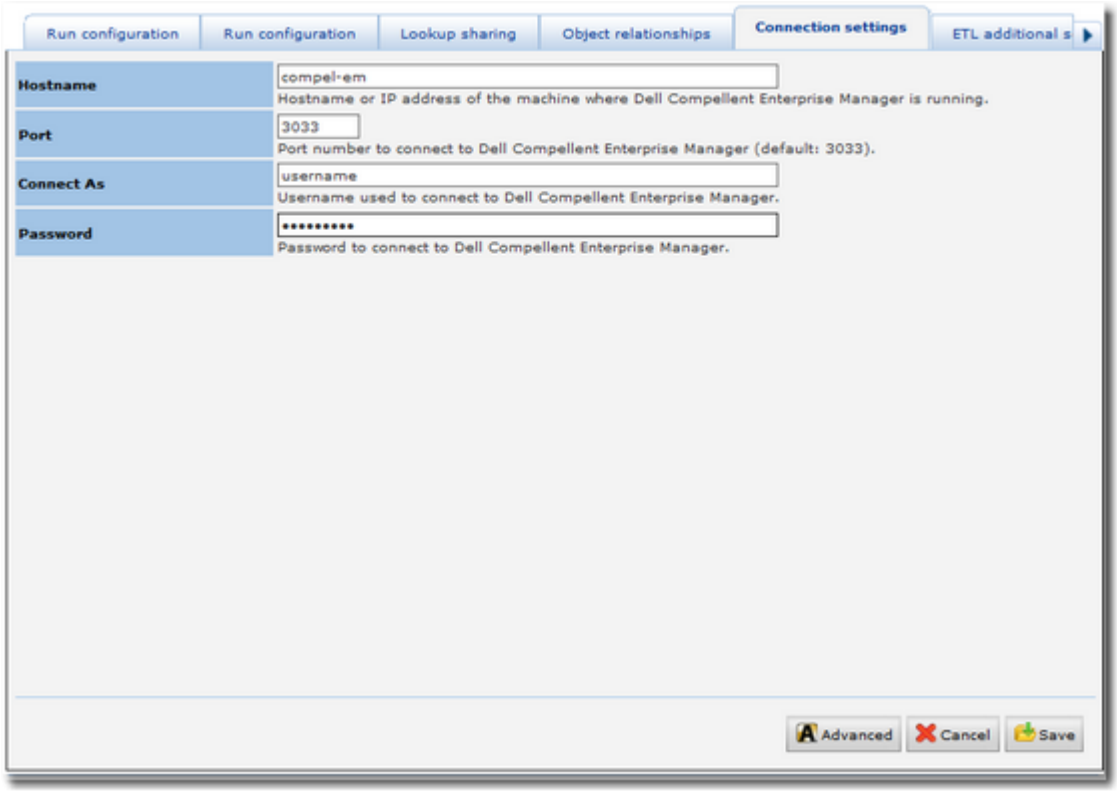
Run configuration
Lookup sharing
Object relationships
Connection settings
ETL additional settings
Task
Sharing status
PRIVATE - the lookup table is not shared with other ETL tasks
SHARED - the lookup table is shared with the specified ETL task
Private - select this option if this is the only ETL that extracts data from the given set of resources
Shared - select this option if more than one ETL extracts data from the given set of resources (for example: CMDB)
Advanced
Cancel
Save

- **PRIVATE** if only this ETL will extract data from the specified resources.
- **SHARED** to avoid duplicates if several ETLs extract data from the same resources. You'll then have to specify the ETL with which this ETL will share the information.

4. In the **Object relationship** tab, indicate the Domain tree the imported entities will populate:
   - choosing **new Domain** displays the domain default name: Sentry Software Integration for BCO - Dell Compellent Enterprise Manager Extractor Service
   - choosing **existing Domain** allows you to select a specific domain


Run configuration
Lookup sharing
Object relationships
Connection settings
ETL additional settings
Task
This ETL module provides relationship information for imported entities, to be used to populate the Domain tree. You selected to import OBJREL dataset with this information, please select the destination root Domain below.
Associate new entities to
new Domain
existing Domain
Domain
An Object relationship hierarchy rule with the same name of the ETL will be automatically created or updated. The hierarchy rule will be created with status ACTIVE.
Advanced
Cancel
Save

5. In the **Connection settings** tab:



- Enter the hostname or the IP address of the server where Dell Compellent Enterprise Manager is running.

- Indicate the port number used by Dell Compellent Enterprise Manager (default: 3033)
- Enter the username and password to connect to Dell Compellent Enterprise Manager

6. Click **Save**.

Disabling / Enabling Volumes Monitoring

Discovering and collecting volumes metrics are resource-intensive actions that can create extra workload on the system. To reduce the system resource consumption, administrators can disable volumes monitoring.

To disable volumes monitoring:

1. Edit the Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization Run Configuration
2. Select the **ETL additional settings** tab.

Run configuration
Lookup sharing
Object relationships
Connection settings
ETL additional settings
Task
Disable Volumes Monitoring
No
When the volumes monitoring is disabled, discovery and collect requests and operations are no longer performed.
Import Entities
Volume
The ETL creates entities for each Storage Systems and Storage Pools. To also create entities for volumes, select the Volume option above. Creating entities for additional object classes may have a deep impact on the performance of the solution. Note: This option requires 'Disable Volumes Monitoring' set to 'No' and STOGLB and OBJREL datasets selected in the 'Run Configuration' tab.
Advanced
Cancel
Save

Disabling Volume Monitoring

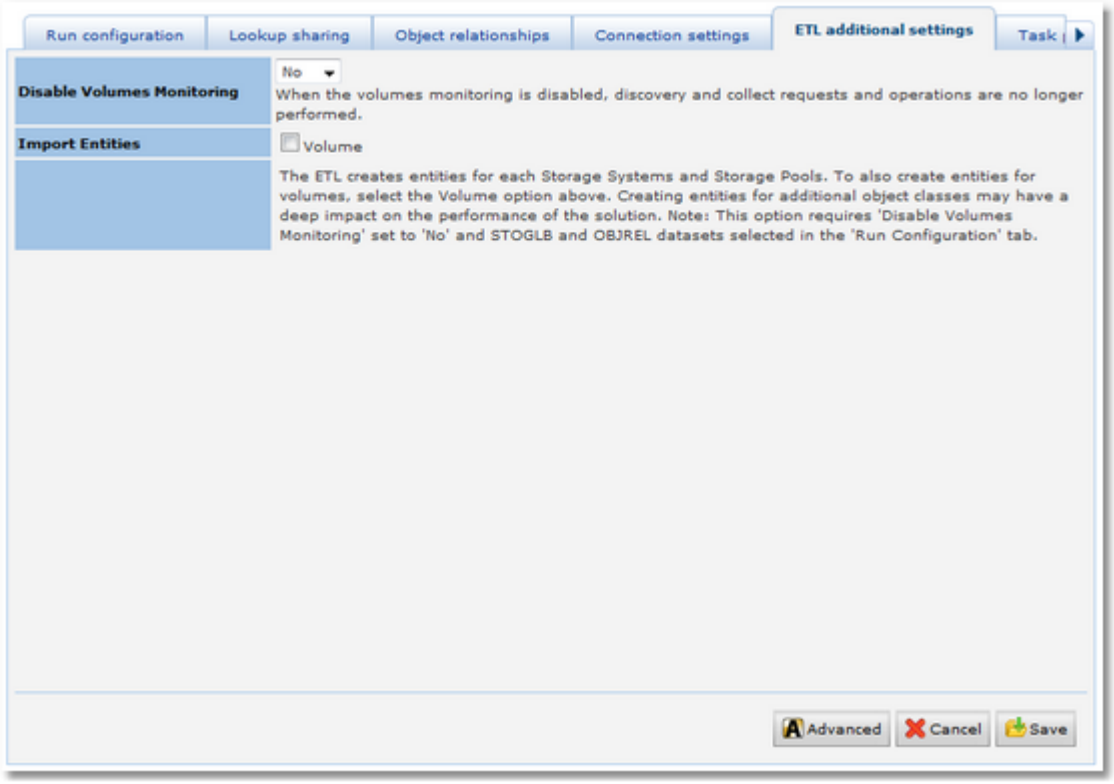
3. From the **Disable Volumes Monitoring** pull-down list, select **Yes**.
4. Click **Save**.

Discovery and collect requests are no longer performed and the following metrics are no longer available for the **STOGLB** dataset:

- ST_POOL_OVERSUBSCRIBED_TOTAL (Pool Oversubscribed Total)
- ST_POOL_OVERSUBSCRIPTION_SITUATION (Pool Oversubscription Situation)
- ST_POOL_SUBSCRIBED_CAPACITY_PCT (Pool Subscribed Capacity Percentage)
- ST_THINPOOL_SUBSCRIBED_TOTAL (Thin Pool Subscribed Total Capacity).
- ST_USED_PCT (Storage Used Space Percentage)

To enable volumes monitoring:

1. Edit the Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization Run Configuration.
2. In the **Run Configuration** tab, make sure that the **STOGLB** and **OBJREL** datasets are selected.
3. Select the **ETL additional settings** tab.

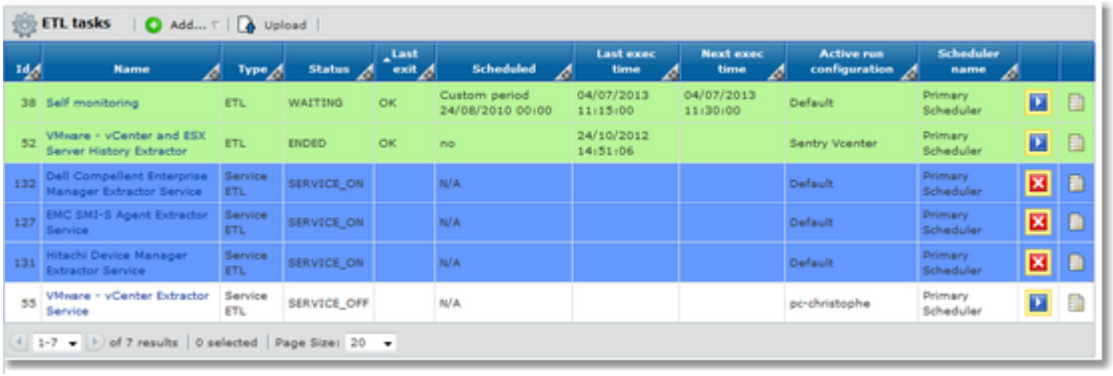

Run configuration
Lookup sharing
Object relationships
Connection settings
ETL additional settings
Task
Disable Volumes Monitoring
No
When the volumes monitoring is disabled, discovery and collect requests and operations are no longer performed.
Import Entities
Volume
The ETL creates entities for each Storage Systems and Storage Pools. To also create entities for volumes, select the Volume option above. Creating entities for additional object classes may have a deep impact on the performance of the solution. Note: This option requires 'Disable Volumes Monitoring' set to 'No' and STOGLB and OBJREL datasets selected in the 'Run Configuration' tab.
Advanced
Cancel
Save

Enabling Volumes Monitoring

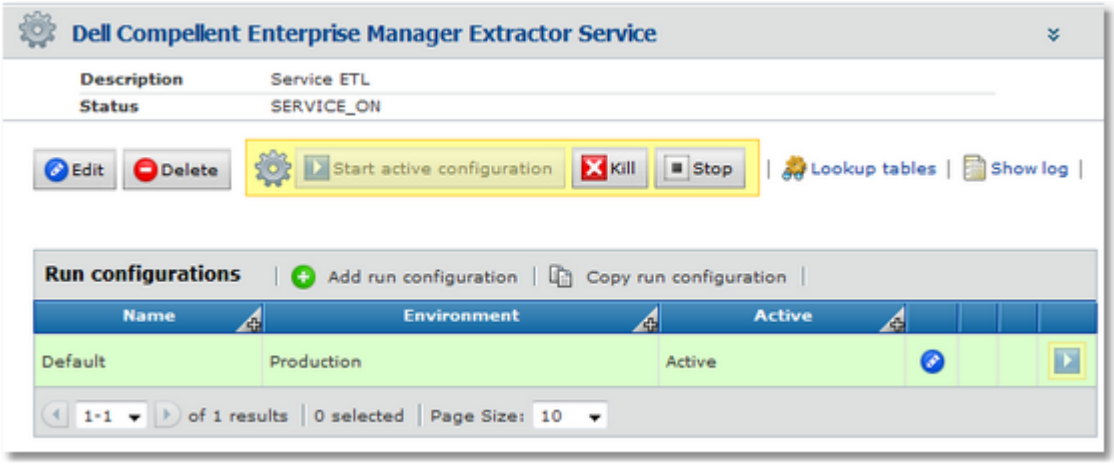
4. From the **Disable Volumes Monitoring** pull-down list, select **No**.
5. Check the **Volume** box to make the volume entity appear in the Domain tree. Please note that creating entities for additional object classes may have a deep impact on the performance of the application.
6. Click **Save**.

Scheduling the Collect Frequency

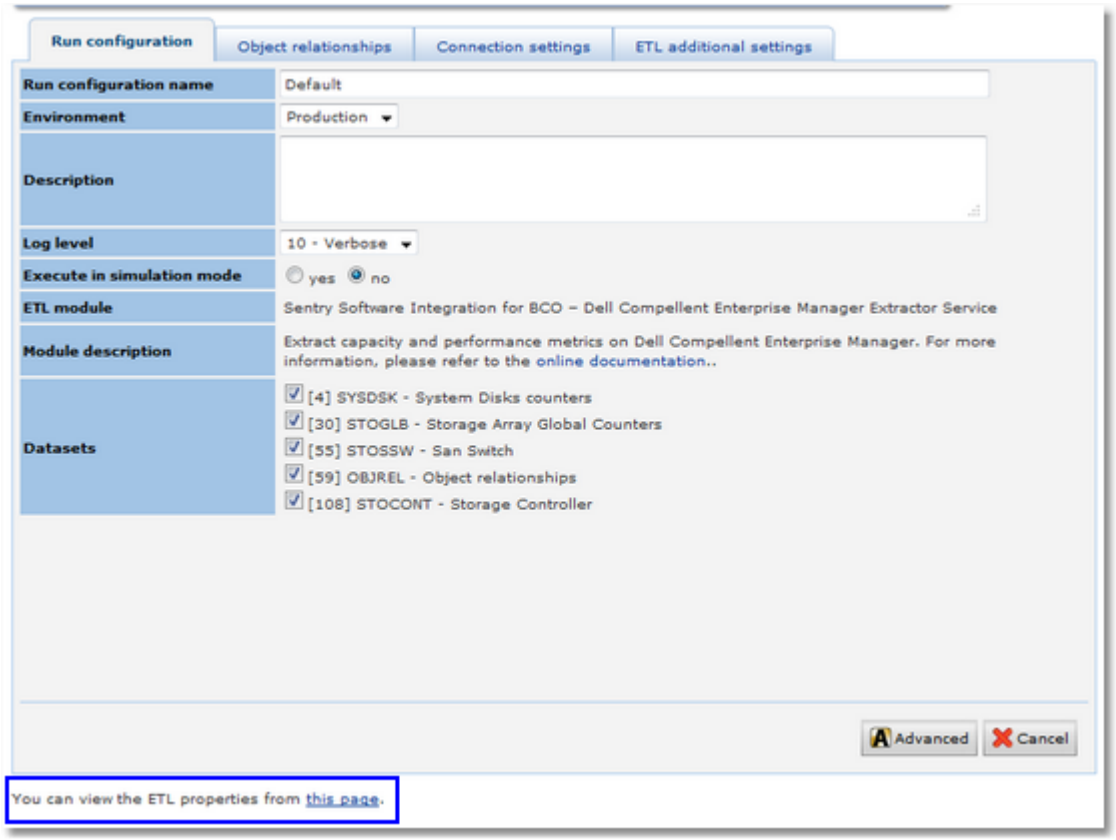
1. Edit the Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization Run Configuration:
   - In the **Administration** tab, click **Scheduler > ETL tasks**.


ETL tasks
Add...
Upload
Id
Name
Type
Status
Last exit
Scheduled
Last exec time
Next exec time
Active run configuration
Scheduler name
38 Self monitoring ETL WAITING OK Custom period 24/08/2010 00:00 04/07/2013 11:15:00 04/07/2013 11:30:00 Default Primary Scheduler
52 VMware - vCenter and ESX Server History Extractor ETL ENDED OK no 24/10/2012 14:51:06 Sentry Vcenter Primary Scheduler
132 Dell Compellent Enterprise Manager Extractor Service Service ETL SERVICE_ON N/A Default Primary Scheduler
127 EMC SMI-S Agent Extractor Service Service ETL SERVICE_ON N/A Default Primary Scheduler
131 Hitachi Device Manager Extractor Service Service ETL SERVICE_ON N/A Default Primary Scheduler
55 VMware - vCenter Extractor Service Service ETL SERVICE_OFF N/A pc-christophe Primary Scheduler
1-7 of 7 results 0 selected Page Size: 20

   - Click the link Sentry Software Integration for BCO - Dell Compellent Enterprise Manager Extractor Service.



   - Click the **Stop** button to stop the service execution.
   - Click the **Edit** button.

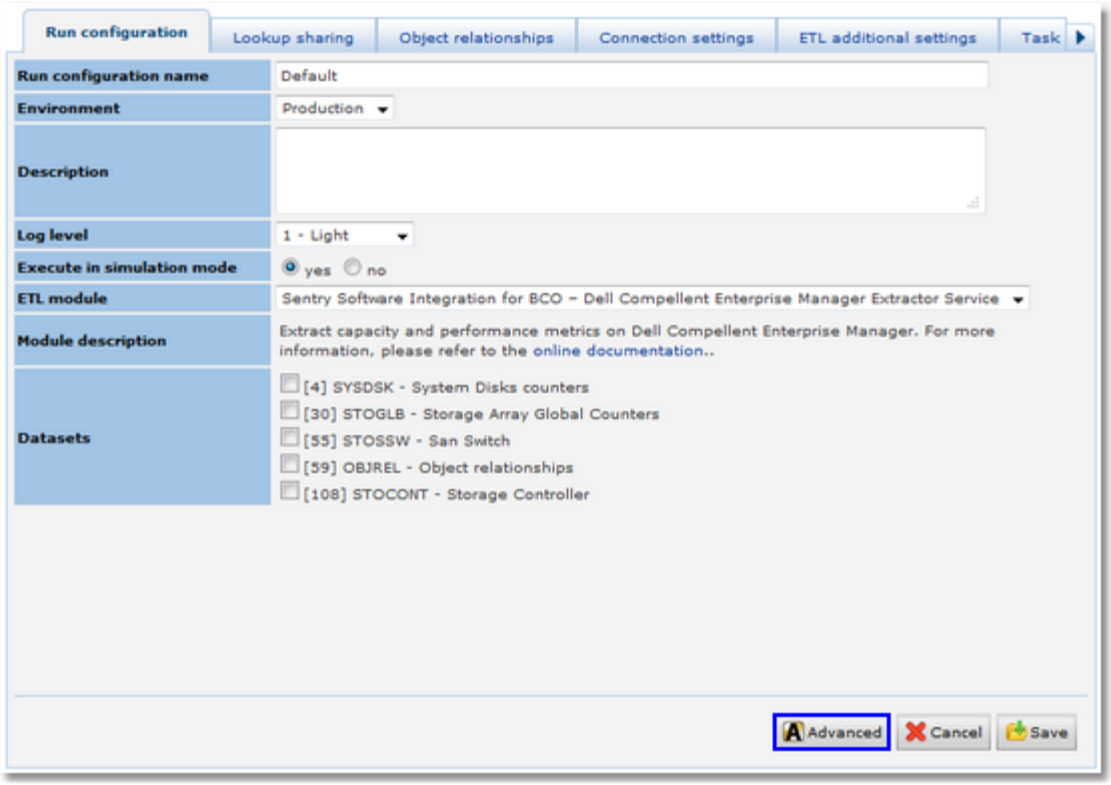


2. Click the link provided at the bottom of the page **You can view the ETL properties from this page** to display a list of editable options.
3. Locate the **service.period** option, and enter the number of milliseconds corresponding the frequency at which data will be collected.

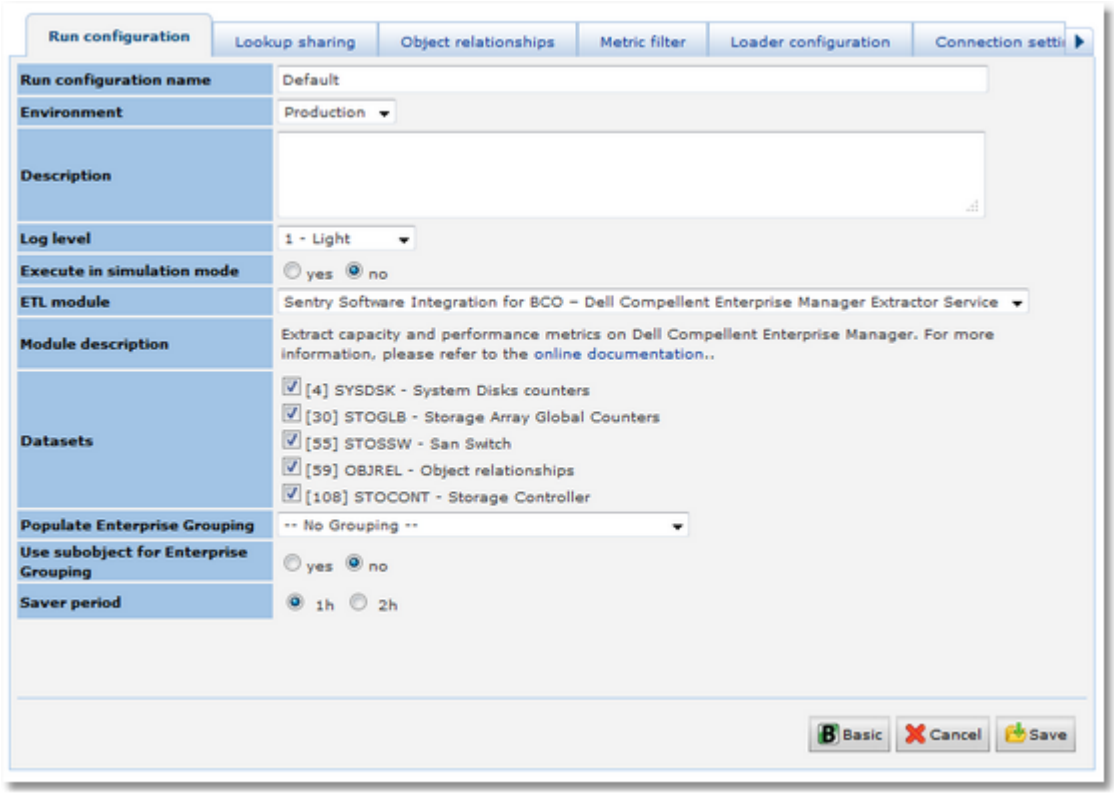
Setting the Data Saving Frequency

To set the data saving frequency:

1. Create or edit the Dell Compellent Enterprise Manager ETL for BMC Capacity Optimization Run Configuration
2. In the **Run configuration** tab, click the **Advanced** button



3. Locate the **Saver period** option and select the frequency at which the ETL module will collect the data (1h or 2h).



4. Click **Save**.

Running Sentry Software Integration for BCO - Dell Compellent Enterprise Manager Extractor Service Task

The steps listed in this section are not mandatory, and are required only if the ETLs are not already scheduled for execution

To run the Sentry Software Integration for BCO - Dell Compellent Enterprise Manager Extractor Service task to retrieve performance metrics, perform the following steps:

1. In the BMC Capacity Optimization Console, click the **Administration** tab and select **Scheduler > ETL tasks**.
2. Click to execute the **Sentry Software Integration for BCO - Dell Compellent Enterprise Manager Extractor Service** ETL task from the ETL tasks table. When the execution is complete, the value of the **Status** column in the ETL tasks table changes from **Waiting** to **Ended**.

Reference Guide

This section provides detailed information on the performance metrics collected by the Sentry Software Integration for BCO - Dell Compellent Enterprise Manager Extractor Service from the Dell Compellent Enterprise Manager and made available in the BCO Console. Metrics are available in the following datasets.

- STOCONT Dataset Performance Metrics
- STOGLB Dataset Performance Metrics
- STOSSW Dataset Performance Metrics
- SYSDSK Dataset Performance Metrics

For additional information about datasets management, refer to BMC Capacity Optimization documentation.

STOCONT Dataset Performance Metrics

Metrics are presented in tabular form, where each column represents a particular variable, and each row corresponds to a given member of the STOCONT dataset.

Metrics	Unit	Name	Description	Value Type
BYCONT_PORT_NUM	N/A	Number of available ports by controller	Number of available ports by controller. The subobject specifies the controller name.	Configuration data (string)
BYCONT_PROCESSOR_UTIL	PCT	Processor utilization by controller	Processor utilization by controller. The subobject specifies the controller name.	Percentage counter
BYCONT_RESPONSE_TIME	MILLIS	Response time by controller	Response time by controller. The subobject specifies the controller name.	Elapsed time
BYCONT_TRANSFER_RATE	BYTE/S	Transfer rate by controller	Transfer rate by controller. The subobject specifies the controller name.	A frequency, in events/sec

For detailed information about datasets, refer to the BMC Capacity Optimization documentation.

STOGLB Dataset Performance Metrics

Metrics are presented in tabular form, where each column represents a particular variable, and each row corresponds to a given member of the STOGLB dataset.

Metric	Entity	Unit	Name	Description	Value Type
ST_ACCESSIBLE	Storage Area Network	BYTES	Accessible Space	Total capacity of accessible devices on this array or the arrays in the group.	Generic counter, absolute value
ST_ACC_USED	Storage Area Network	BYTES	Accessible Used Space	Total host file system and raw database capacity that resides exclusively on this array or on one array in this group. Does not include file system or raw database capacity that also resides on another array.	Generic counter, absolute value
ST_AVAILABLE_CAPACITY_PCT	Storage Pool	PCT	Available Capacity Percentage	Percentage of the storage capacity that is not consumed.	Percentage counter
ST_AVAILABLE_FOR_STORAGE_POOLS	Storage Area Network	BYTES	Available Capacity for Storage Pools	Raw space available for storage pool creation.	Negative accumulation counter
ST_AVAILABLE_IN_STORAGE_POOLS	Storage Area Network	BYTES	Available Capacity in Storage Pools	Sum of space not consumed in all storage pools.	Negative accumulation counter
ST_CONFIG_SUM	Storage Area Network, Storage Pool	BYTES	Configured Usable Space	Capacity on the array that can be used by the array. Includes capacity configured into logical devices or groups minus capacity defined by the protection level (mirror or parity RAID) for the devices or groups.	Generic counter, absolute value
ST_CONFIG_SUM_RAW	Storage Area Network, Storage Pool	BYTES	Configured Raw Space	Capacity on the array that has a defined protection level (mirror or parity RAID).	Generic counter, absolute value
ST_FREE	Storage Area Network, Storage Pool	BYTES	Storage Free	Storage free size.	Negative accumulation counter
ST_POOL_OVERSUBSCRIBED_TOTAL*	Storage Area Network, Storage Pool	BYTES	Pool Oversubscribed Total	The amount by which storage pool is over-subscribed.	Generic counter, absolute value

Metric	Entity	Unit	Name	Description	Value Type
ST_POOL_OVERSUBSCRIPTION_SITUATION*	Storage Pool	N/A	Pool Oversubscription Situation	Identify the over-subscribed pools in danger i.e. thin pools where Subscribed Capacity Percentage is greater than 100 % and the Consumed Capacity Percentage crosses the threshold.	Configuration data (string)
ST_POOL_SUBSCRIBED_CAPACITY_PCT*	Storage Pool	PCT	Pool Subscribed Capacity Percentage	Subscribed capacity, in percentage of the capacity of the storage pool. Can exceed 100% for thin pools, therefore called oversubscribed	Percentage counter
ST_POOL_TYPE	Storage Pool	N/A	Array Pool Type	Type of the pool. Possible value is Disk Folder.	Configuration data (string)
ST_PORT_COUNT	Storage Area Network	N/A	Storage array ports number	Number of storage array ports.	Configuration data (string)
ST_RAW	Storage Area Network	BYTES	Raw Space	Sum of the capacities of the physical disks in the array.	Generic counter, absolute value
ST_SID	Storage Area Network	N/A	Storage Device Unique Identifier	Unique identifier of the storage device.	Configuration data (string)
ST_SYSTEM_BANDWIDTH	Storage Area Network	BYTE/S	System Bandwidth	Bandwidth available in storage system.	Configuration data (string)
ST_SYSTEM_BANDWIDTH_UTIL	Storage Area Network	PCT	System Bandwidth Utilization	Bandwidth consumed in storage system.	Percentage counter
ST_SYSTEM_TRANSFER_BYTE_RATE	Storage Area Network	BYTE/S	System Transfer Byte Rate	Total data traffic (in and out, read and write)	A frequency, in events/sec
ST_THINPOOL_SUBSCRIBED_TOTAL*	Storage Area Network, Storage Pool	BYTES	Thin Pool Subscribed Total capacity	Thin pool subscribed total capacity.	Configuration data (string)
ST_USED	Storage Pool	BYTES	Storage Used Space	Storage array used space.	Positive accumulation counter
ST_USED_PCT	Storage Area Network, Storage Pool	PCT	Storage Used Space Percentage	Storage array used space percentage.	Percentage counter

Metric	Entity	Unit	Name	Description	Value Type
ST_VENDOR	Storage Area Network	BYTES	Array Vendor	Amount vendor	Configuration data (string)
ST_VOLUME_CONSUMED_CAPACITY_PCT	Storage - Volume	PCT	Volume Consumed Capacity Percentage	Percentage of the volume subscribed capacity that has been actually consumed by the host. Will be typically less	Percentage counter
ST_VOLUME_HOST_VISIBLE_CAPACITY	Storage - Volume	BYTES	Host Volume Visible Capacity	Amount of capacity that has been subscribed and can be "seen" by the host	Configuration data (string)
ST_VOLUME_MAPPED	Storage - Volume	N/A	Volume Mapped	Whether the LUN is mapped to at least one host	Configuration data (string)
ST_VOLUME_RESPONSE_TIME	Storage - Volume	MILLIS	Volume Response Time	Average time taken by the controller to complete read and write requests during the polling period	Elapsed time
ST_VOLUME_TIME_SINCE_LAST_ACTIVITY	Storage - Volume	N/A	Volume Time Since Last Activity	Number of days since the last read or write operation has been observed on the monitored volume	Configuration data (string)
ST_VOLUME_TRANSFER_BYTE_RATE	Storage - Volume	BYTE/S	Volume Transfer Byte Rate	Data traffic (read and write) on the volume	A frequency, in events/sec
ST_VOLUME_USED	Storage - Volume	BYTE/S	Storage Volume Used Size	Storage Volume Used Size	Positive accumulation counter

**These metrics will be missing if volumes monitoring is disabled.*

STOSSW Dataset Performance Metrics

Metrics are presented in tabular form, where each column represents a particular variable, and each row corresponds to a given member of the STOSSW dataset.

Metrics	Unit	Name	Description	Val Type
BYPORT_ADDRESS	N/A	Storage switch port address	Storage switch port address.	Configuration data (string)
BYPORT_BANDWIDTH	BIT/S	Bandwidth of the storage switch port	Bandwidth of the storage switch port.	Configuration data (string)
BYPORT_BANDWIDTH_UTIL	BIT/S	Bandwidth utilization of the storage switch port	Bandwidth utilization of the storage switch port.	Percentage counter
BYPORT_BYTE_RATE	BYTE/S	Input/output traffic rate for the port	Input/output traffic rate for the port.	A frequency, in events/sec
BYPORT_CONTROLLER_NAME	N/A	Storage switch port controller name	Storage switch port controller name.	Configuration data (string)
BYPORT_TYPE	N/A	Storage switch port type	Storage switch port type.	Configuration data (string)

SYSDSK Dataset Performance Metrics

Metrics are presented in tabular form, where each column represents a particular variable, and each row corresponds to a given member of the SYSDSK dataset.

Metrics

Metrics	Unit	Name	Description	Val Type
BYDISK_MODEL	N/A	Model by Disk	Model of the disk.	Configuration data (string)
BYDISK_READ_RATE	BYTE/S	Disk Read Rate by Disk	The average bytes per second read from this disk device during the interval. The sub-object specifies the disk id.	A frequency, in events/sec
BYDISK_RESPONSE_TIME	S	Disk Response Time	The average time for I/O requests issued to the device to be served. This includes the time spent by the requests.	Generic counter, absolute value, weighted
BYDISK_SIZE	BYTES	Size by Disk	Disk size (bytes).	Configuration data (string)
BYDISK_TRANSFER_RATE	BYTE/S	Disk Transfer Rate by Disk	The average bytes per second transferred to or from this disk device during the interval. The sub-object specifies the disk id.	A frequency, in events/sec
BYDISK_WRITE_RATE	BYTE/S	Disk Write Rate by Disk	The average bytes per second written to this disk device during the interval. The sub-object specifies the disk id.	RATE

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